Express Mail No. ET351442249US
Customer Assignment No. 27516

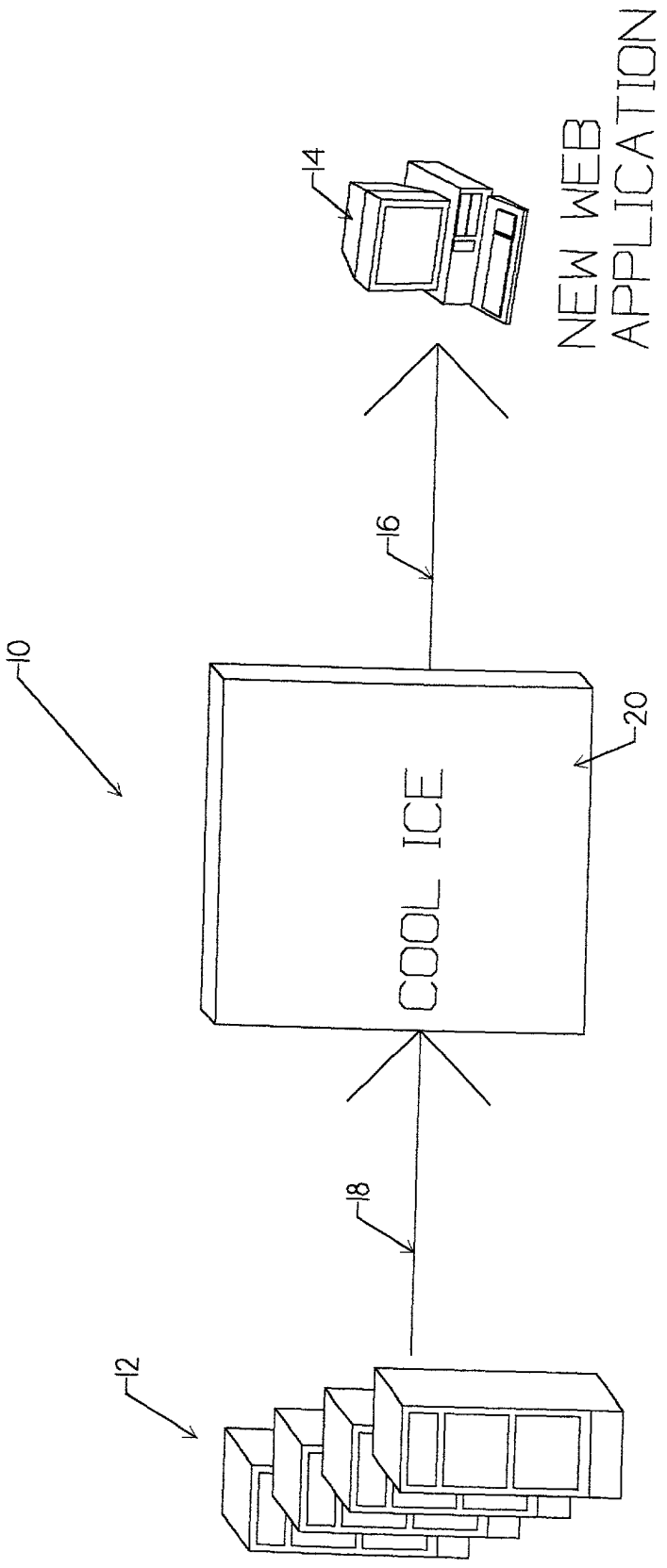

FIG. 1

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 02 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

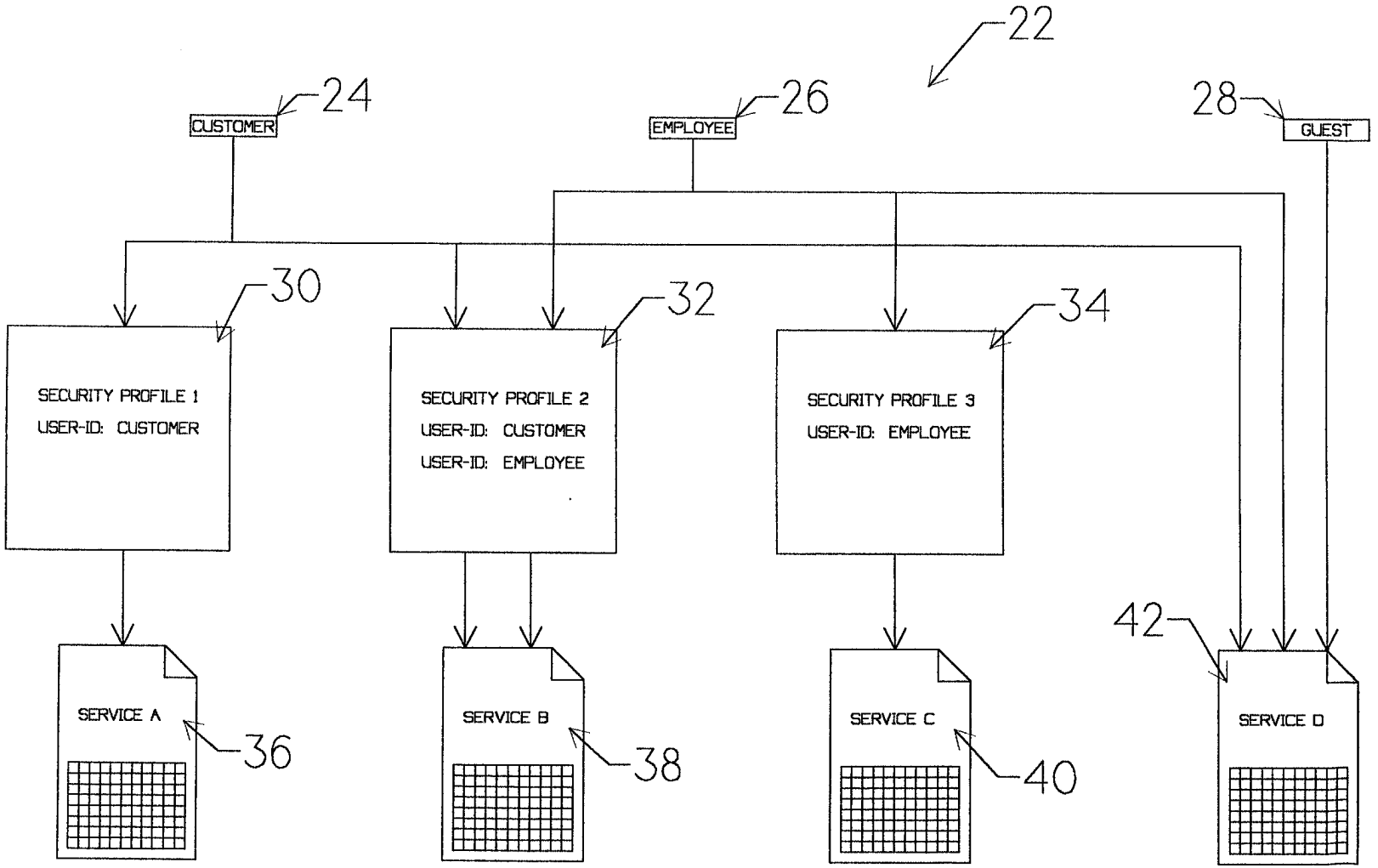

FIG. 2

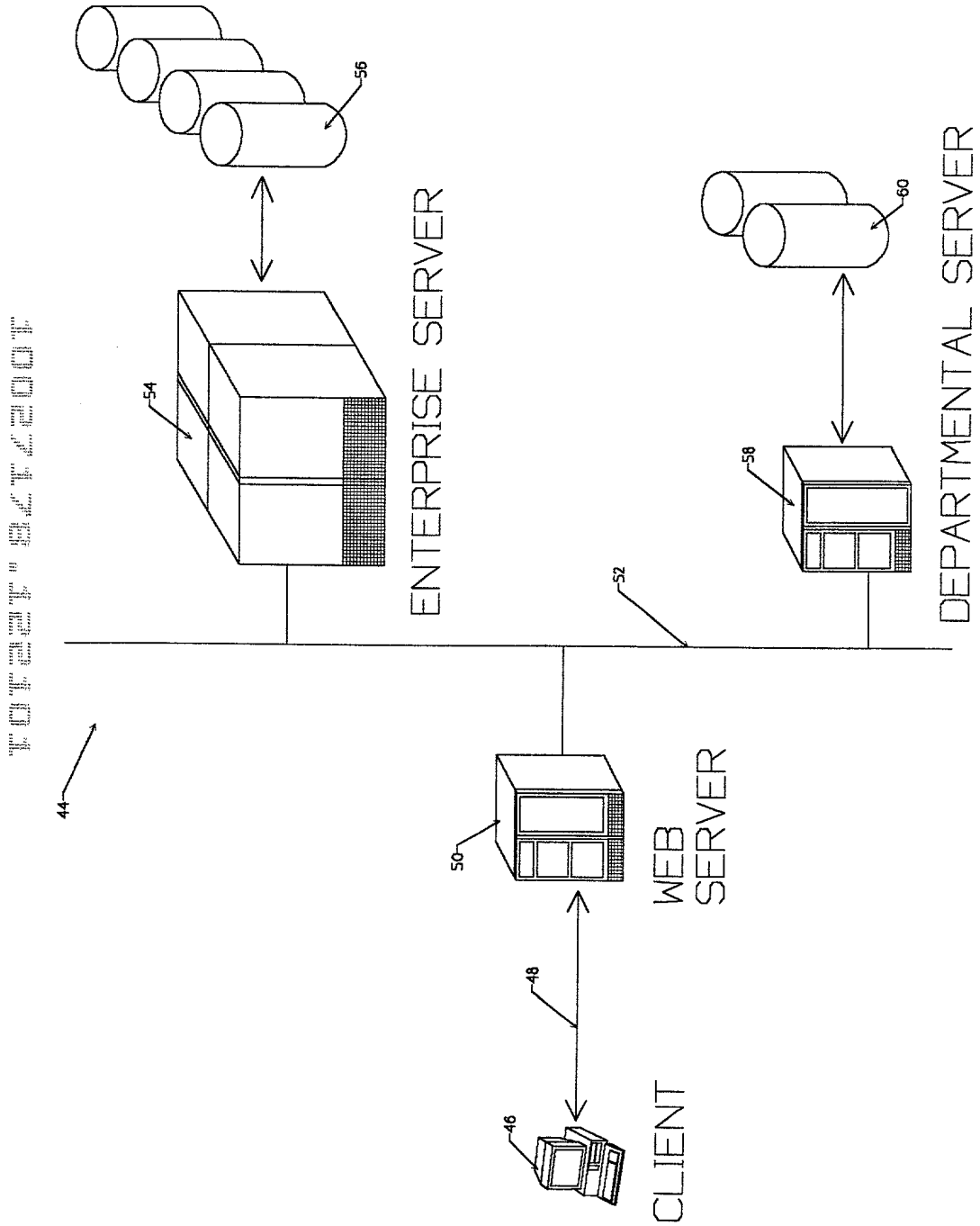
44
46
48
50
52
54
56
58
60
CLIENT
WEB SERVER
ENTERPRISE SERVER
DEPARTMENTAL SERVER

FIG. 3

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 04 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

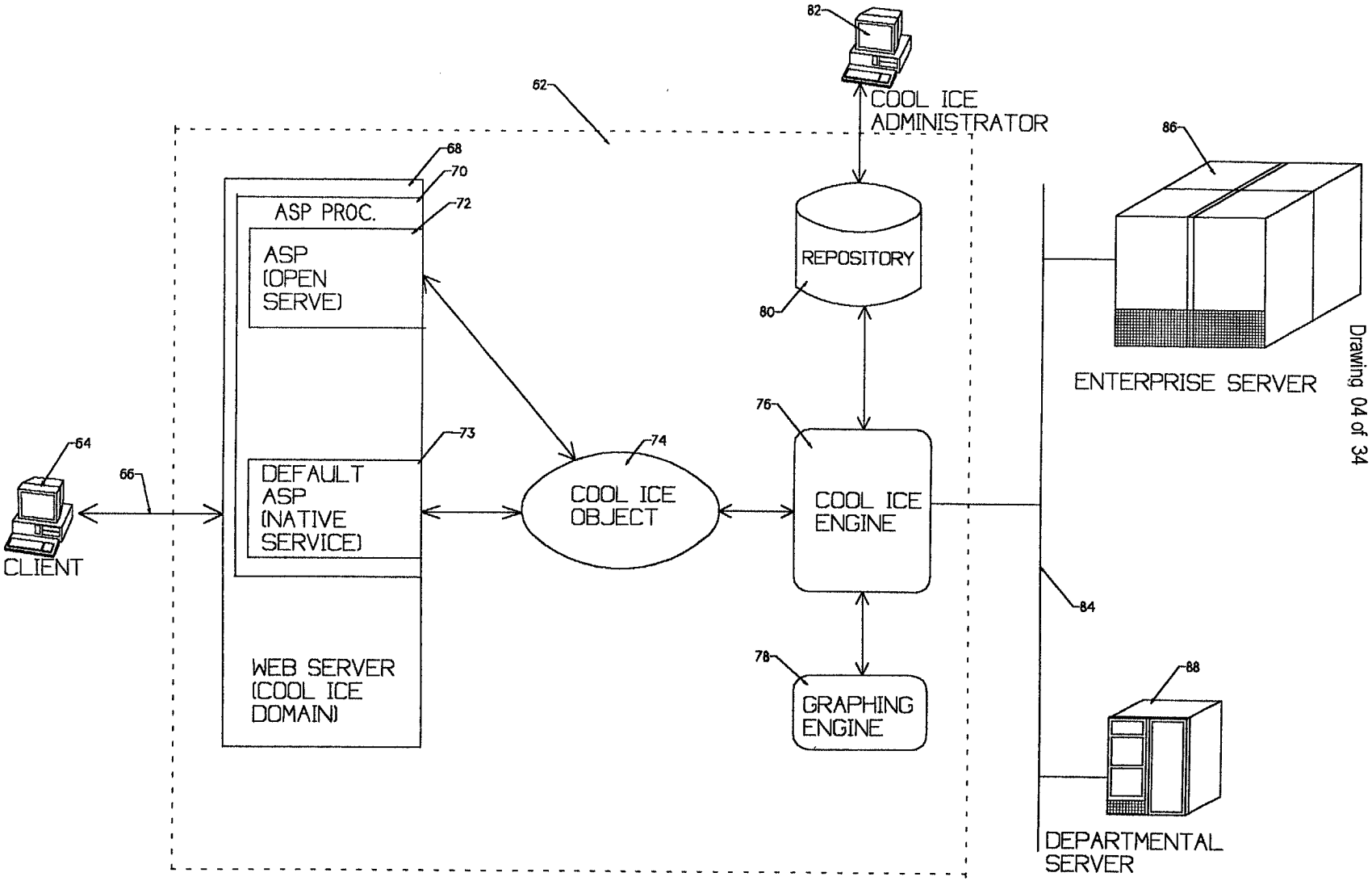

FIG. 4

Patent Application
Filing Date: 12/21/2001 Express Mail No. ET351442249US
Attorney's Docket No. RA-5408 (33012/326/101) Customer Assignment No. 27516
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 05 of 34

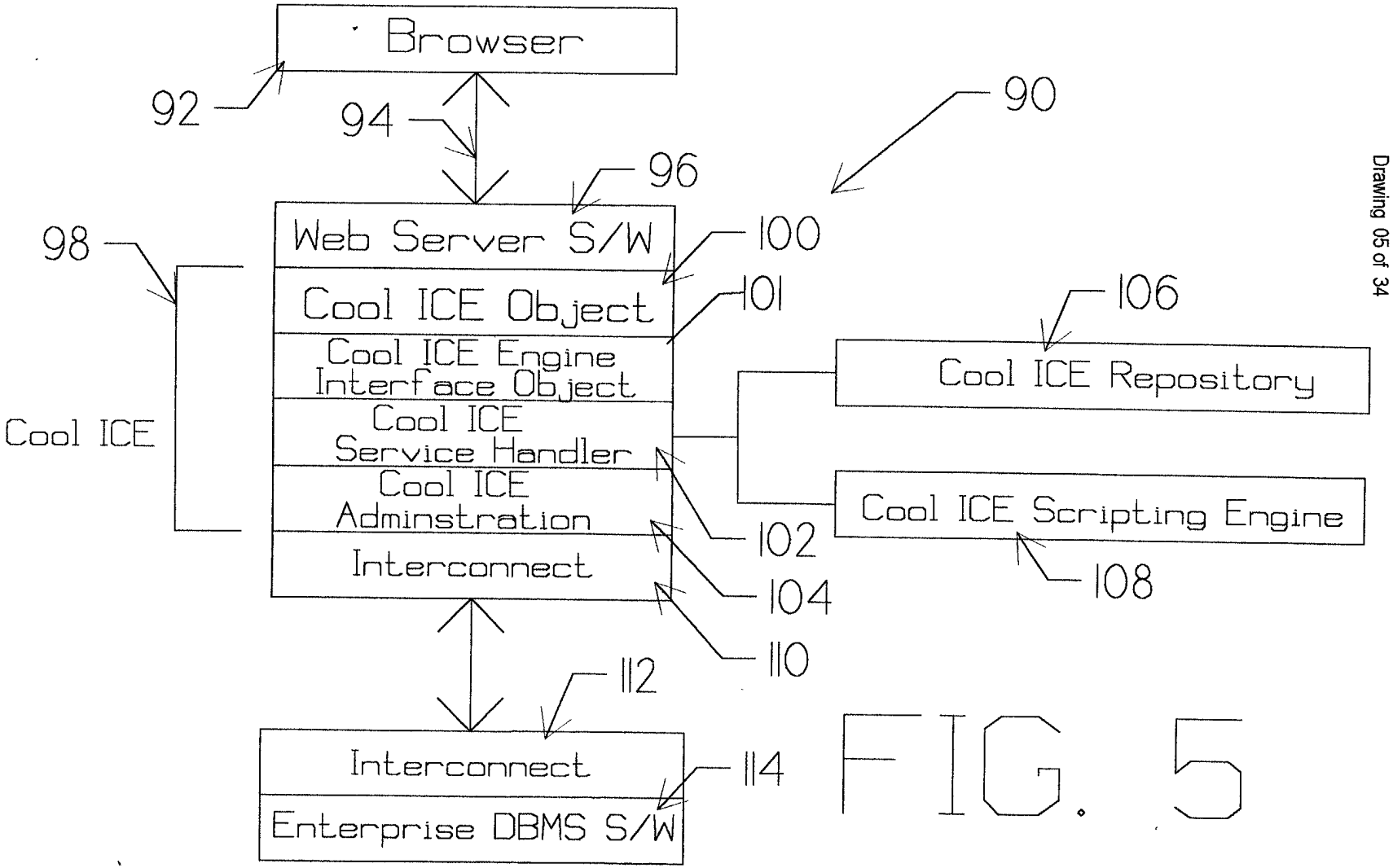

FIG. 5

Patent Application Express Mail No. ET351442249US
Filing Date: 12/21/2001 Customer Assignment No. 27516
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 06 of 34

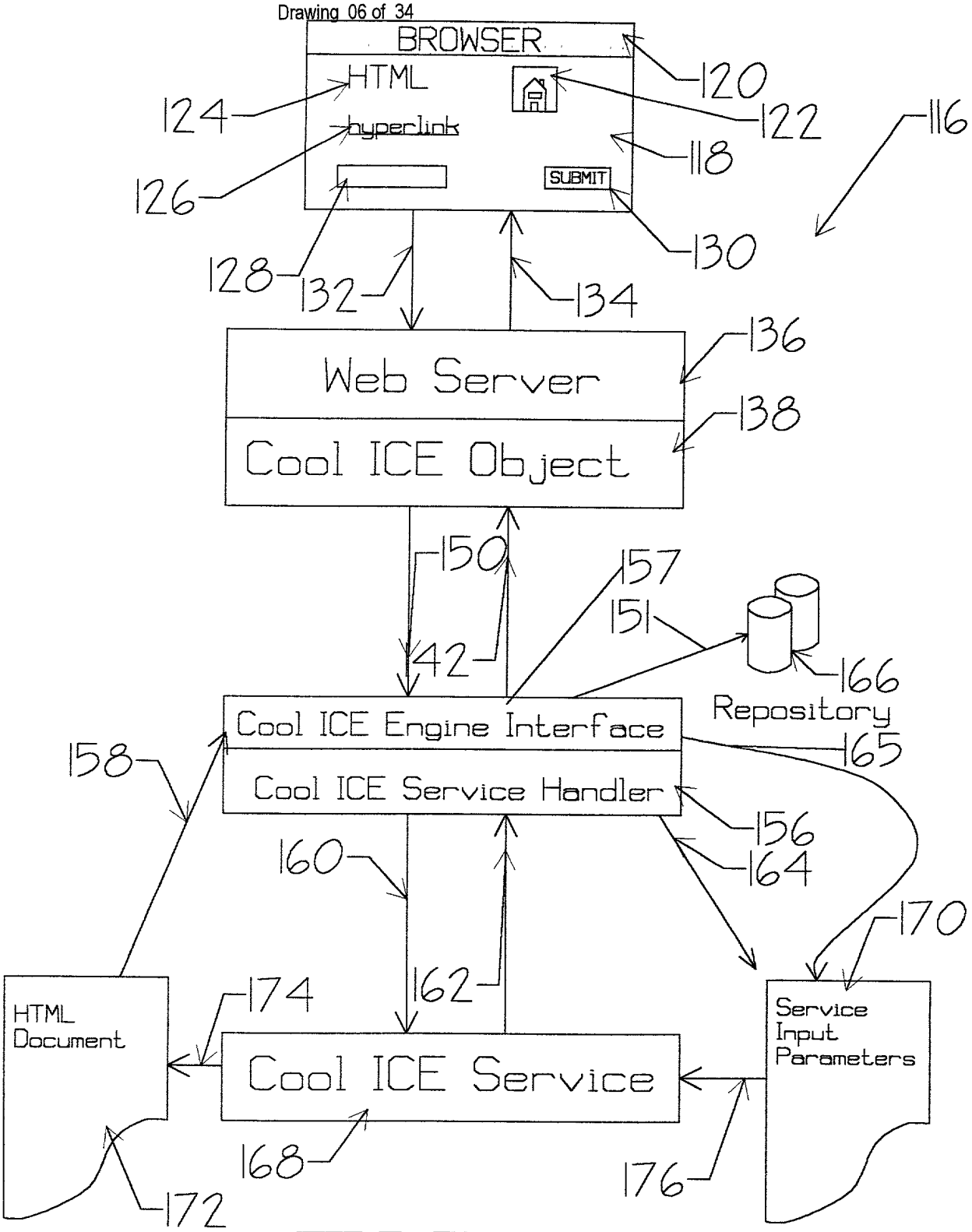

FIG. 6

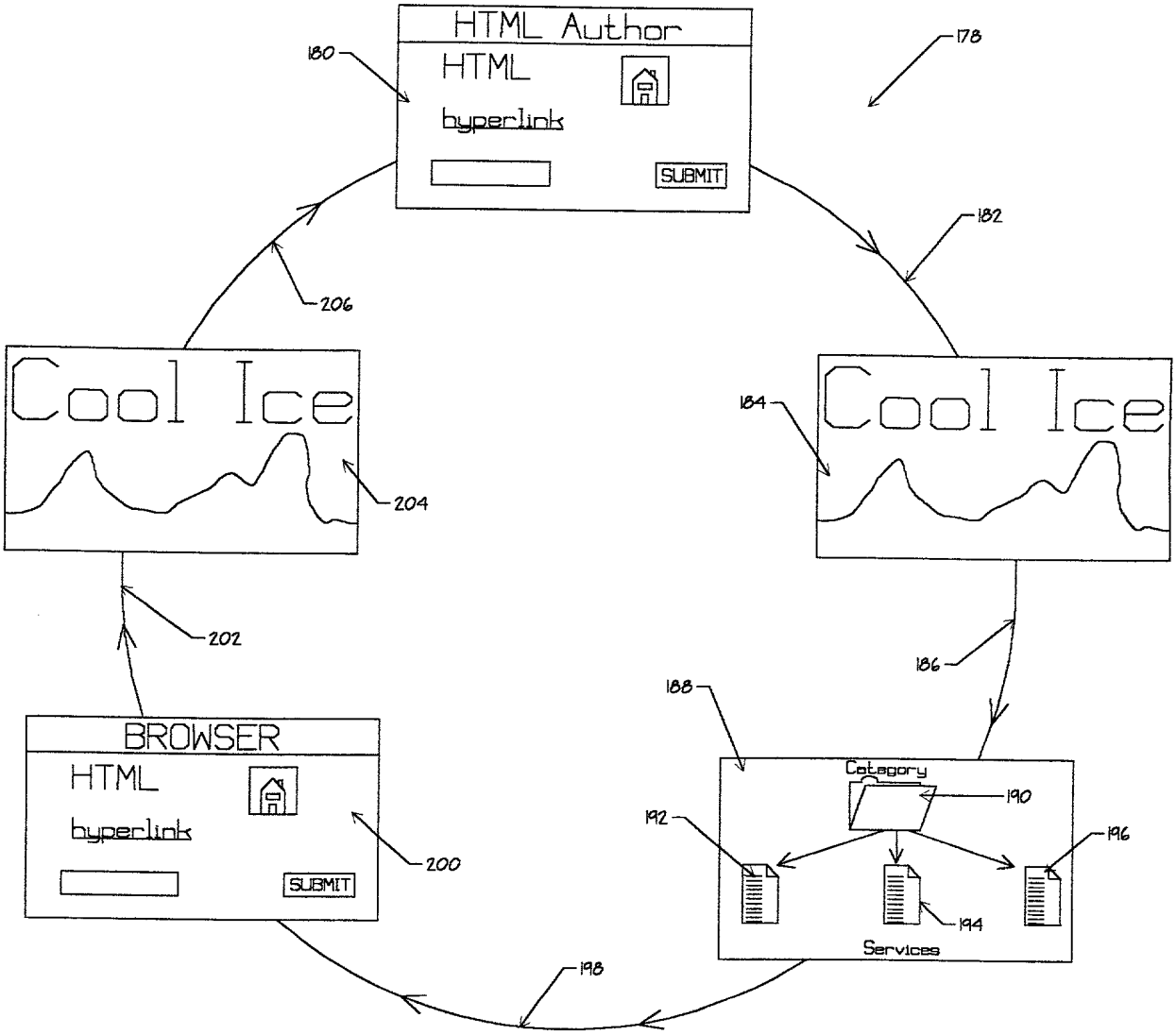
HTML Author
HTML
hyperlink
SUBMIT
180
178
182
206
Cool Ice
204
184
Cool Ice
202
186
188
BROWSER
HTML
hyperlink
SUBMIT
200
Category
190
192
196
194
Services
198

FIG. 7

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 08 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

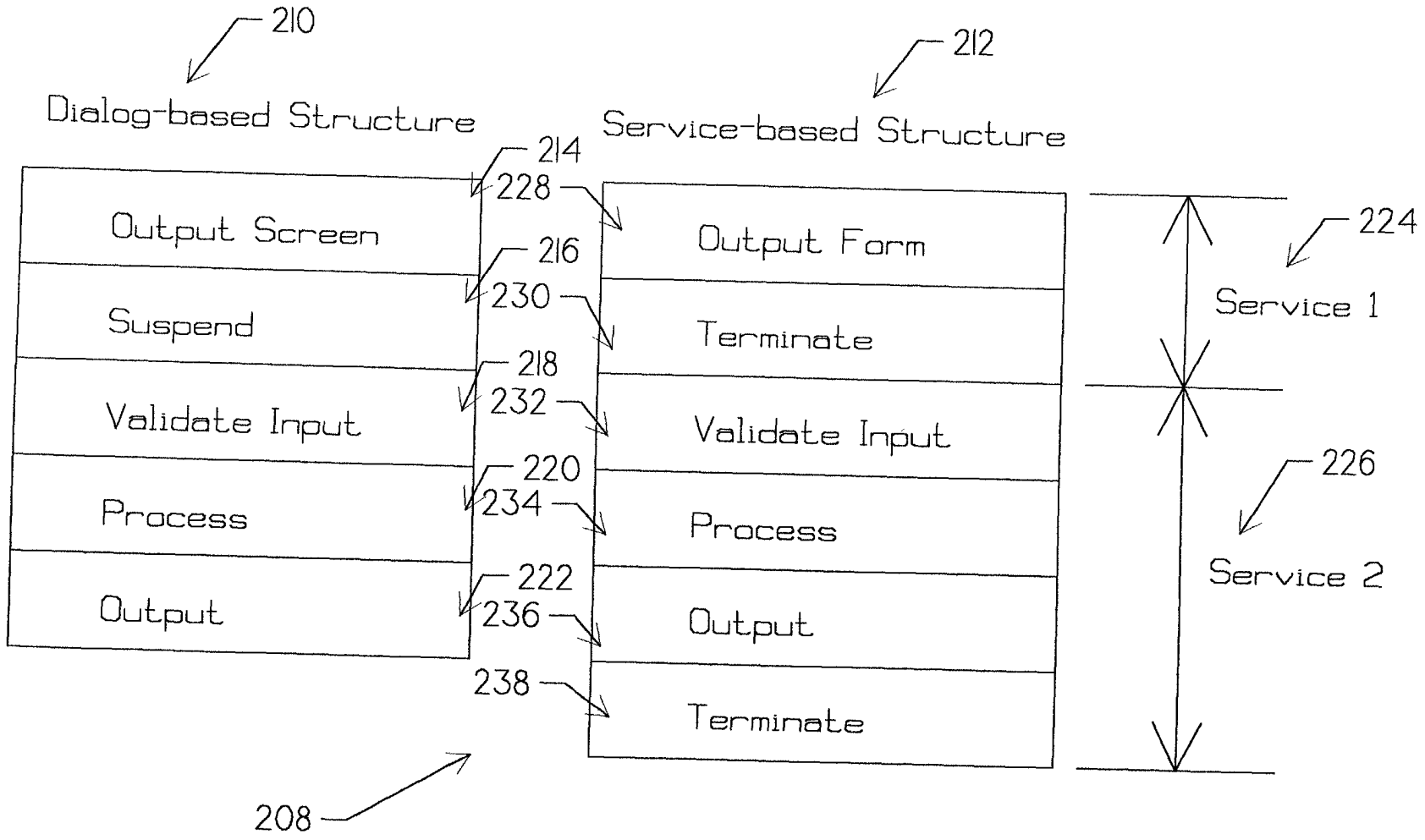

FIG. 8

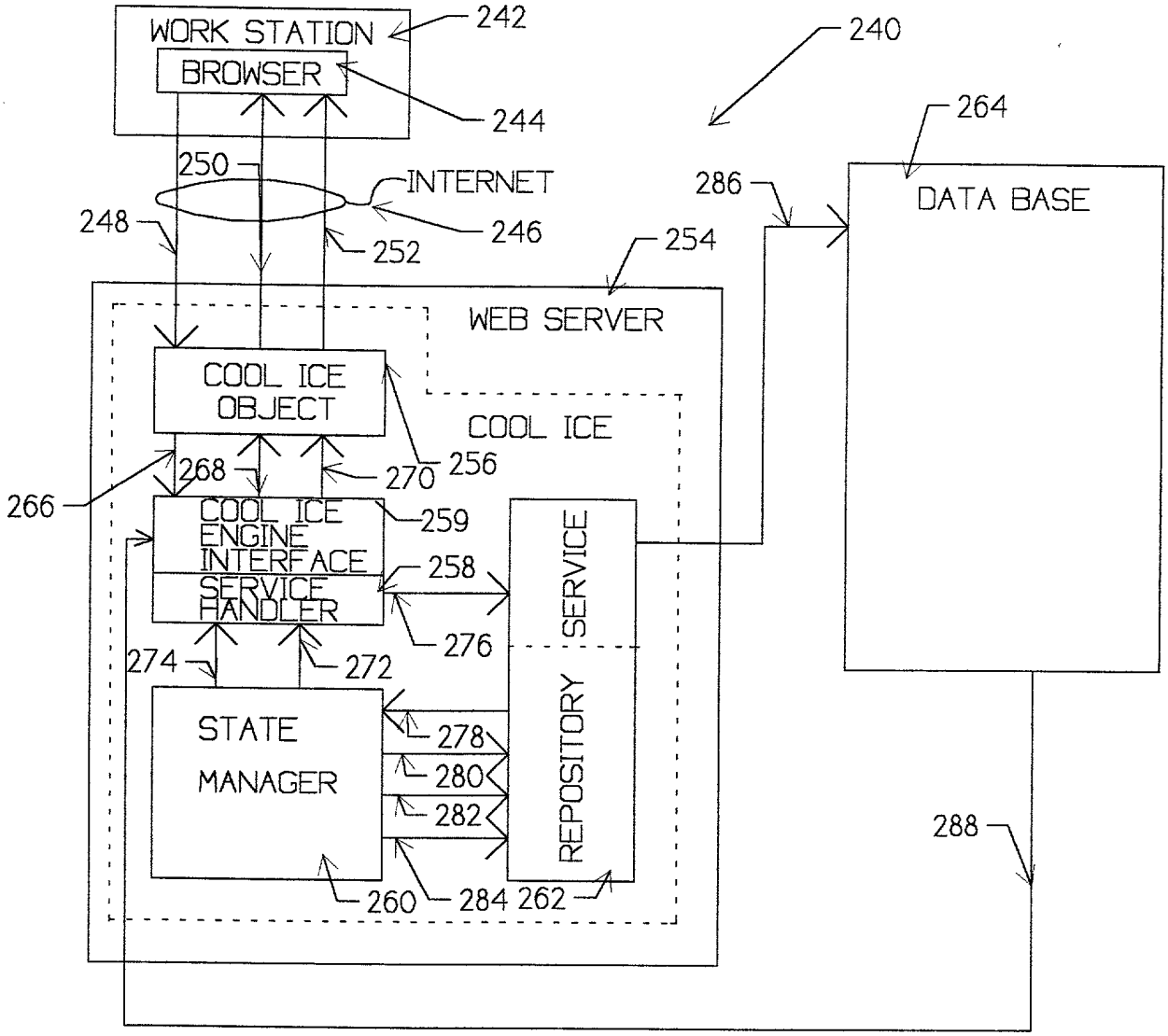
WORK STATION
BROWSER
242
244
240
264
250
INTERNET
246
248
252
286
DATA BASE
254
WEB SERVER
COOL ICE OBJECT
COOL ICE
256
268
270
266
COOL ICE ENGINE INTERFACE
SERVICE HANDLER
259
258
276
SERVICE
REPOSITORY
274
272
STATE MANAGER
278
280
282
288
260
284
262

FIG. 9

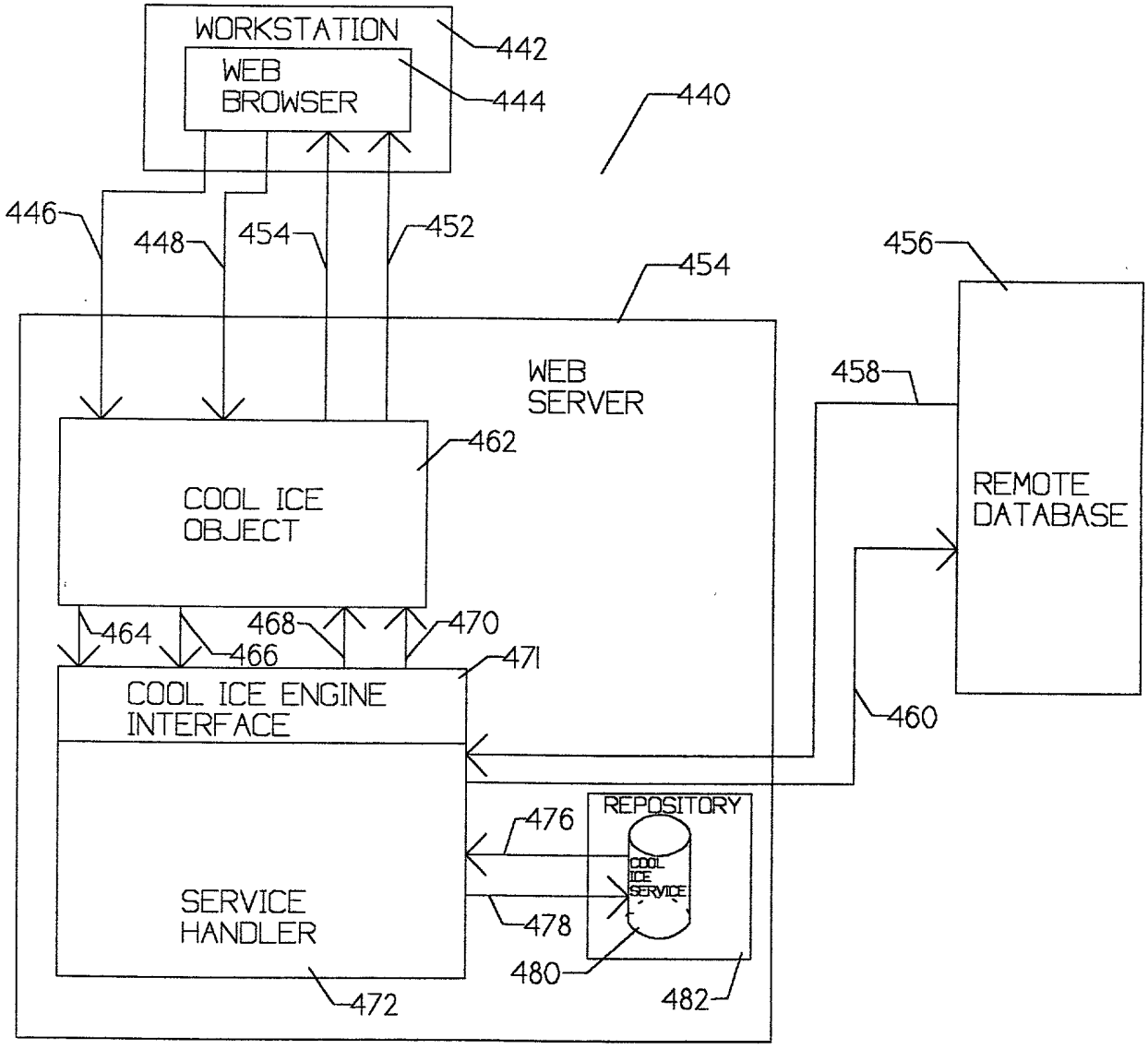
WORKSTATION
442
WEB
BROWSER
444
440
446
448
454
452
456
454
WEB
SERVER
458
462
COOL ICE
OBJECT
REMOTE
DATABASE
464
468
470
466
471
COOL ICE ENGINE
INTERFACE
460
REPOSITORY
476
COOL
ICE
SERVICE
SERVICE
HANDLER
478
480
482
472

FIG. 10

Patent Application Express Mail No. ET351442249US
Filing Date: 12/21/2001 Customer Assignment No. 27516
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 11 of 34

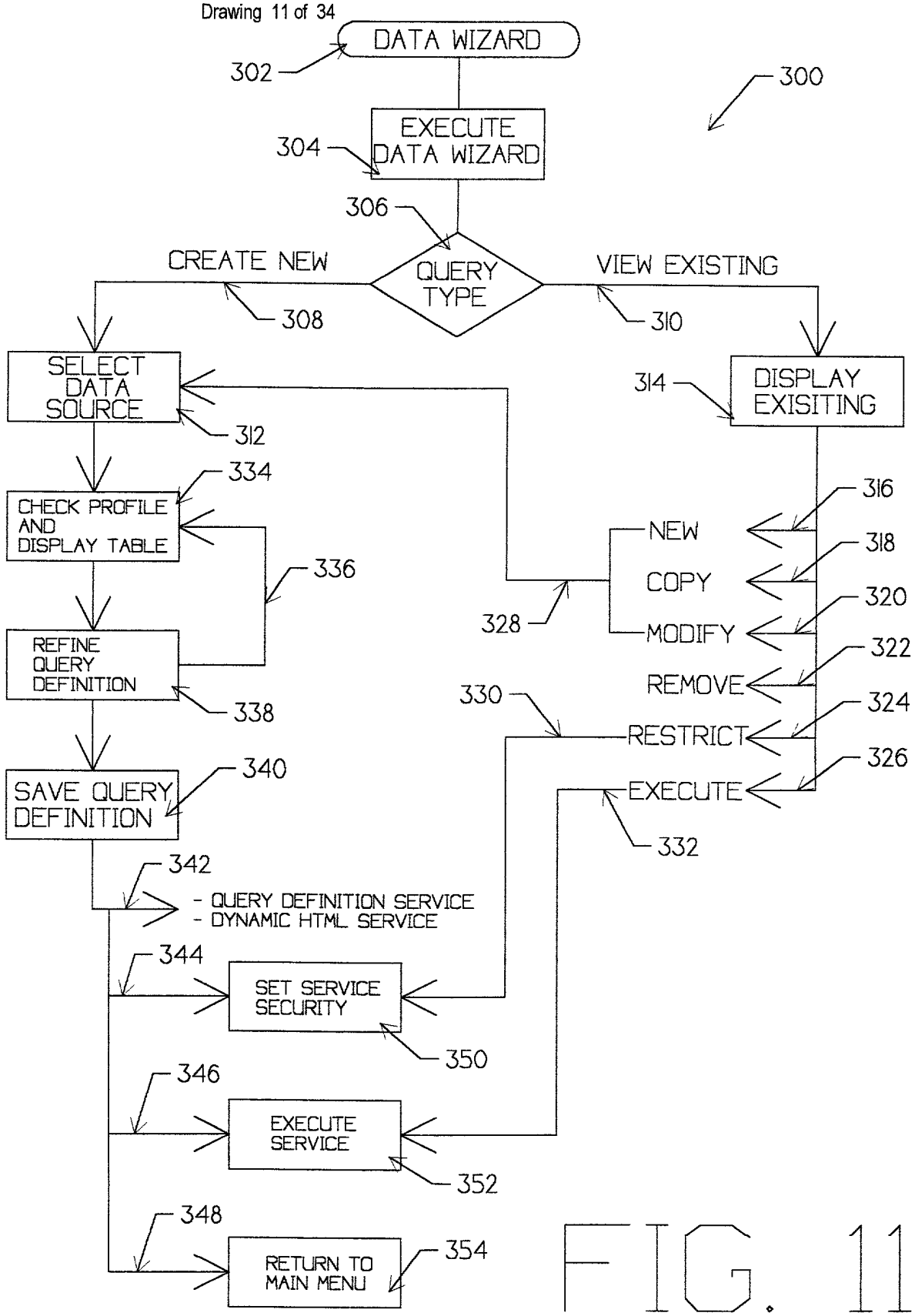

FIG. 11

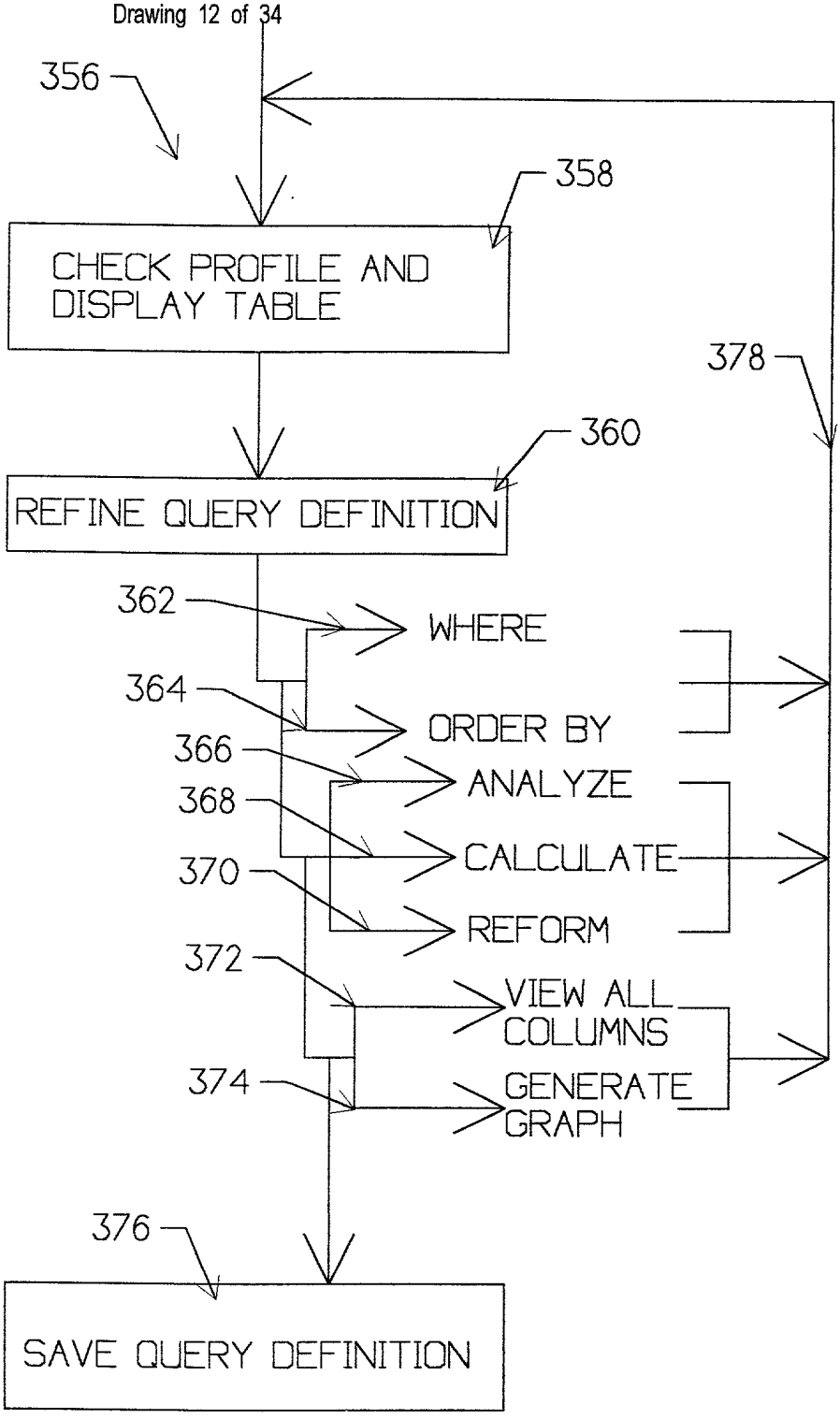

FIG. 12

10027478 - 122904

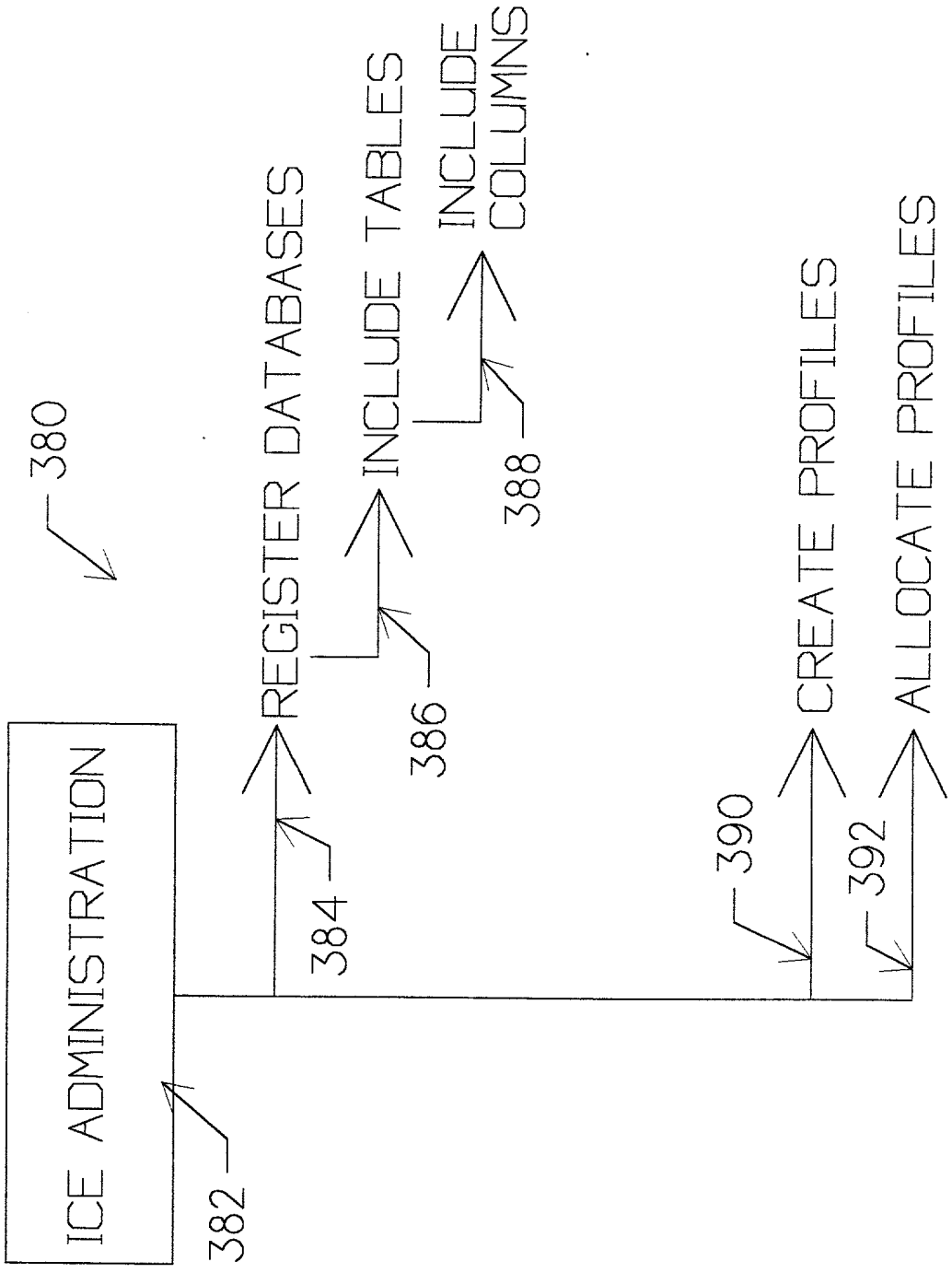
380
ICE ADMINISTRATION
382
REGISTER DATABASES
384
INCLUDE TABLES
386
INCLUDE COLUMNS
388
CREATE PROFILES
390
ALLOCATE PROFILES
392

FIG. 13

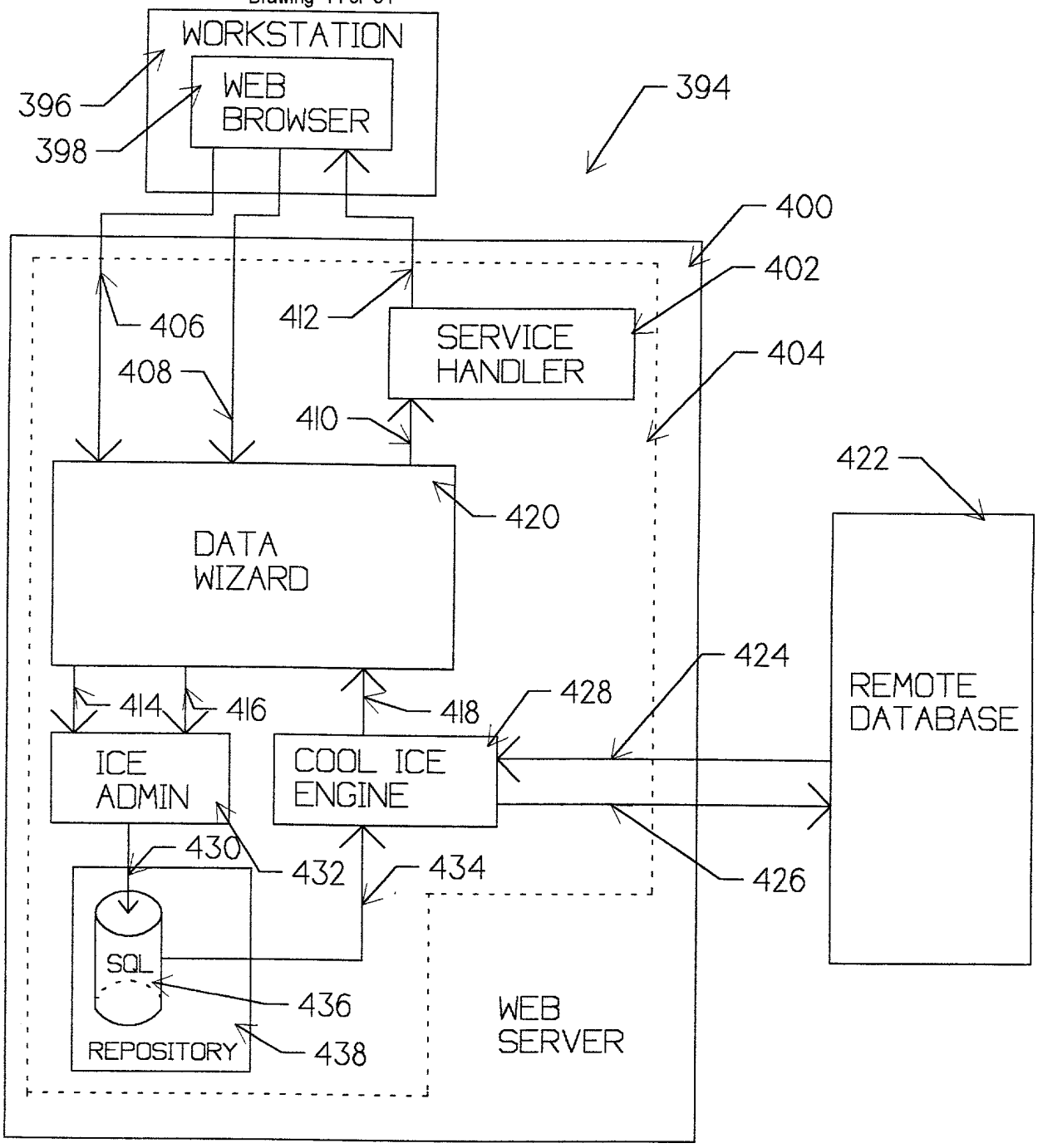
WORKSTATION
WEB BROWSER
396
398
394
400
402
404
406
408
410
412
SERVICE HANDLER
DATA WIZARD
420
422
REMOTE DATABASE
414
416
418
424
428
ICE ADMIN
COOL ICE ENGINE
426
430
432
434
SQL
436
438
REPOSITORY
WEB SERVER

FIG. 14

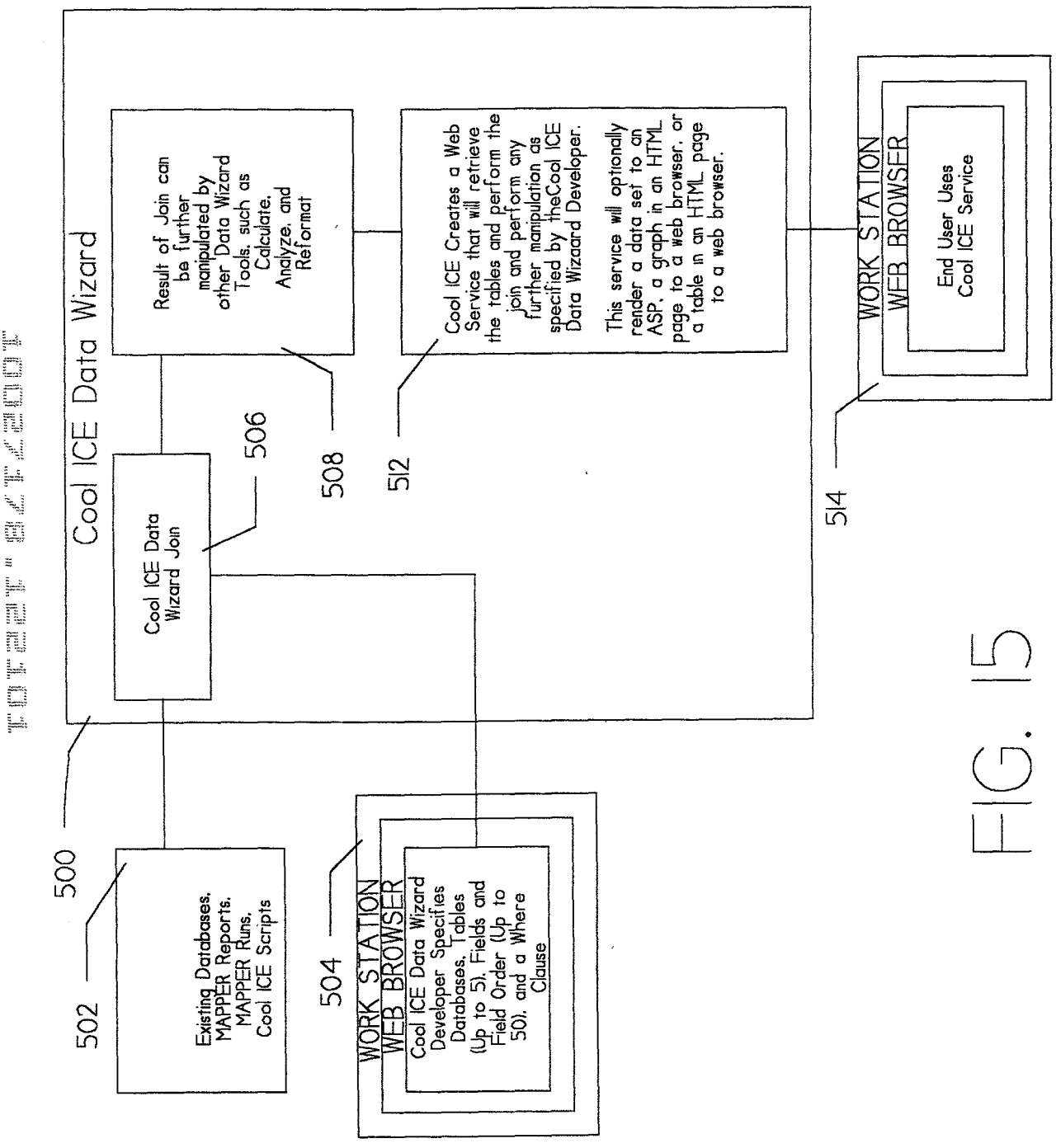
Cool ICE Data Wizard
Result of Join can be further manipulated by other Data Wizard Tools, such as Calculate, Analyze, and Reformat
Cool ICE Creates a Web Service that will retrieve the tables and perform the join and perform any further manipulation as specified by theCool ICE Data Wizzard Developer.
This service will optionally render a data set to an ASP, a graph in an HTML page to a web browser, or a table in an HTML page to a web browser.
Cool ICE Data Wizard Join
506
508
512
514
WORK STATION WEB BROWSER
End User Uses Cool ICE Service
500
502
Existing Databases, MAPPER Reports, MAPPER Runs, Cool ICE Scripts
504
WORK STATION WEB BROWSER
Cool ICE Data Wizard Developer Specifies Databases, Tables (Up to 5), Fields and Field Order (Up to 50), and a Where Clause

FIG. 15

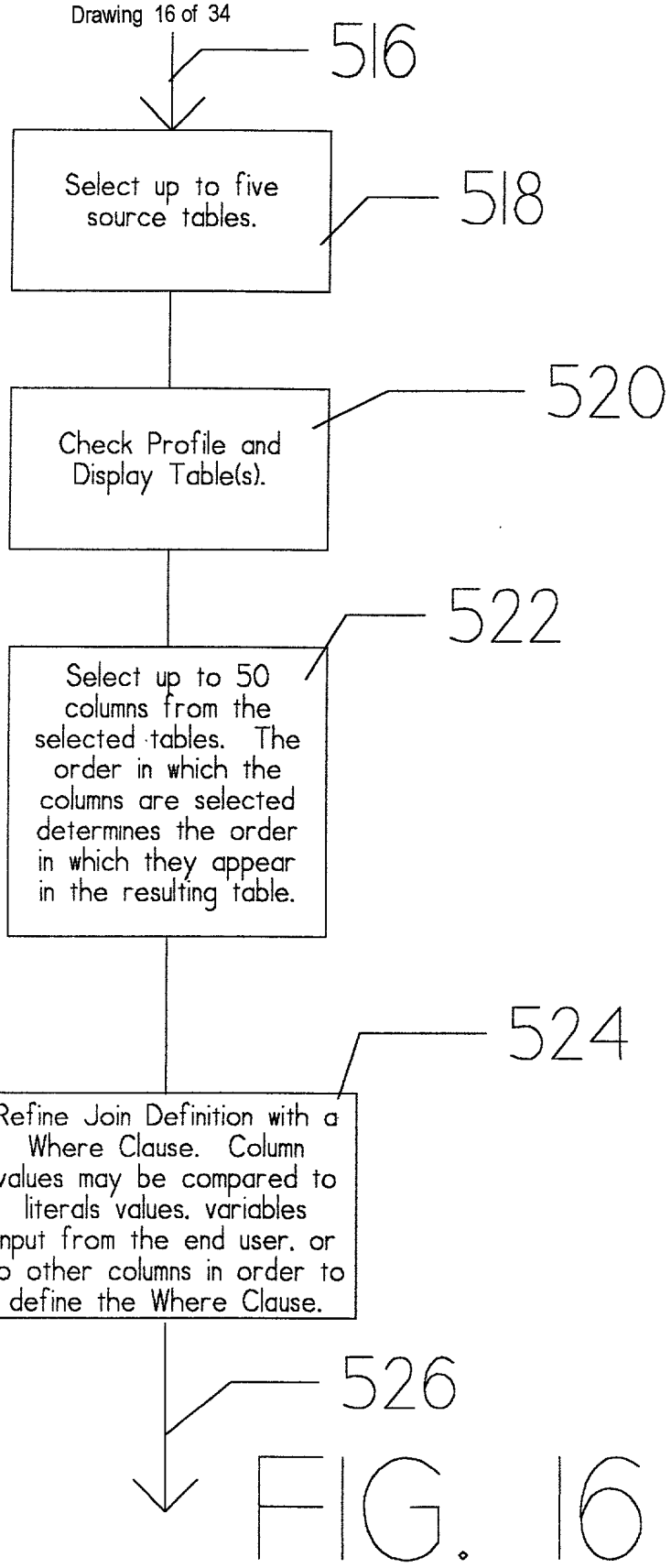

FIG. 16

20020198464

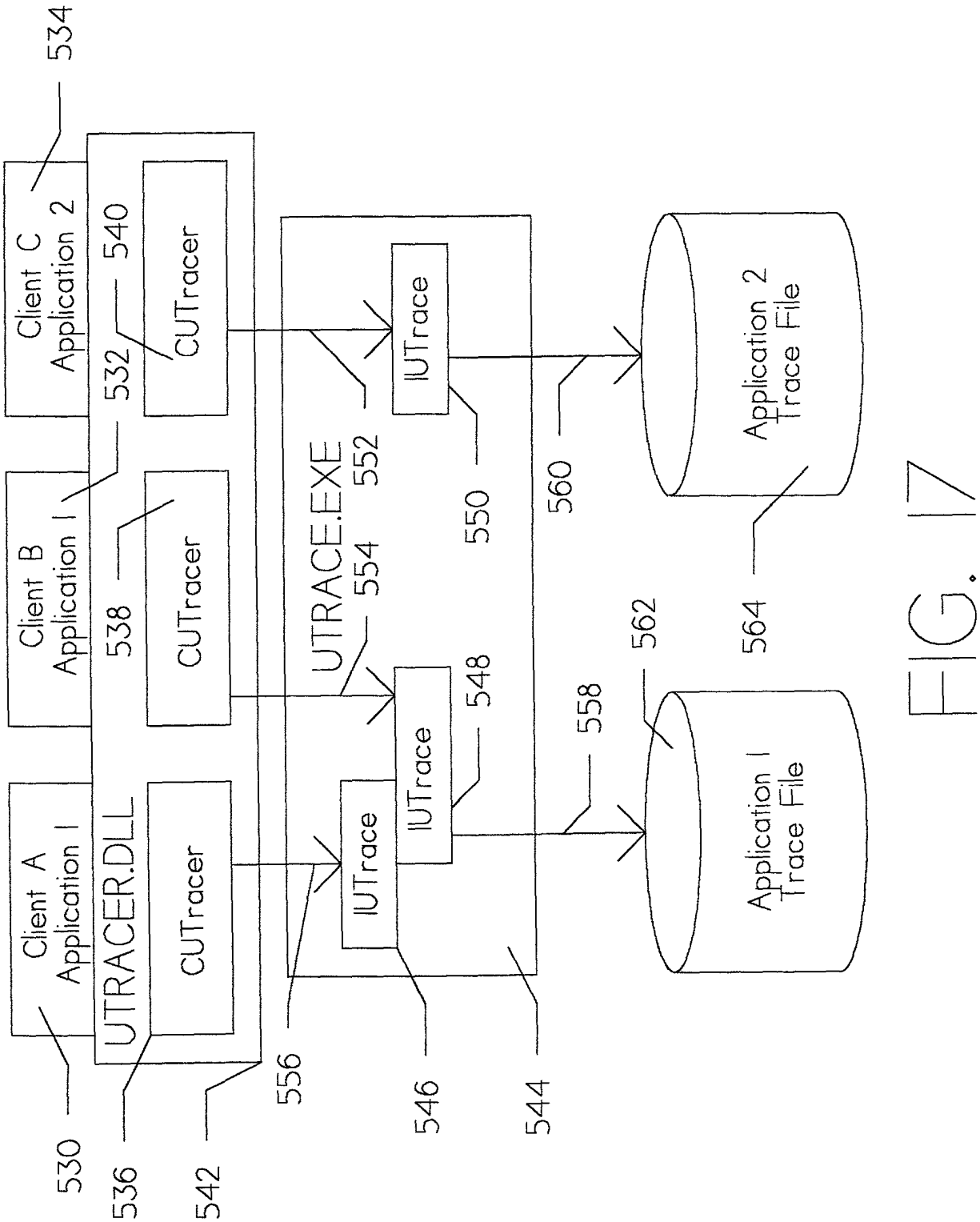
Client A Application 1
Client B Application 1
Client C Application 2
UTRACER.DLL
CUTracer
CUTracer
CUTracer
UTRACE.EXE
IUTrace
IUTrace
IUTrace
Application 1 Trace File
Application 2 Trace File
530
532
534
536
538
540
542
544
546
548
550
552
554
556
558
560
562
564

FIG. 17

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 18 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

HKLM\SOFTWARE\UNISYS\UTRACE

APPNAME -- Subkey matching the name of the application

565

- ENABLETRACE -- DWORD value indication a Boolean (1=trace., 0=no trace).
- MAXENTRIES -- DWORD value indicating the maximum number of entries in the trace file. If missing, then no upper limit is imposed.
- FORMATFLAGS -- DWORD value indicating message formatting flags.
- POLICYFLAGS -- DWORD value indicating trace policy flags set for the application.
- TRACELEVEL -- DWORD value indicating a trace level. 0 = no trace.
- TRACEPATH -- String value indicating the directory path for the trace files.
- REGTRACE -- A string value containing the HKLM\Software sub key to trace for this application. Blank or missing for no registry trace.
- COMPONENT -- A subkey for a specific component of the application.
  - POLICYFLAGS -- Value indicating component level trace policy flags
  - TRACELEVEL -- DWORD Value indicating a trace level. 0 = no trace.
  - VERSIONTRACE-- String value specifying executable component name for version information tracing.

FIG. 18

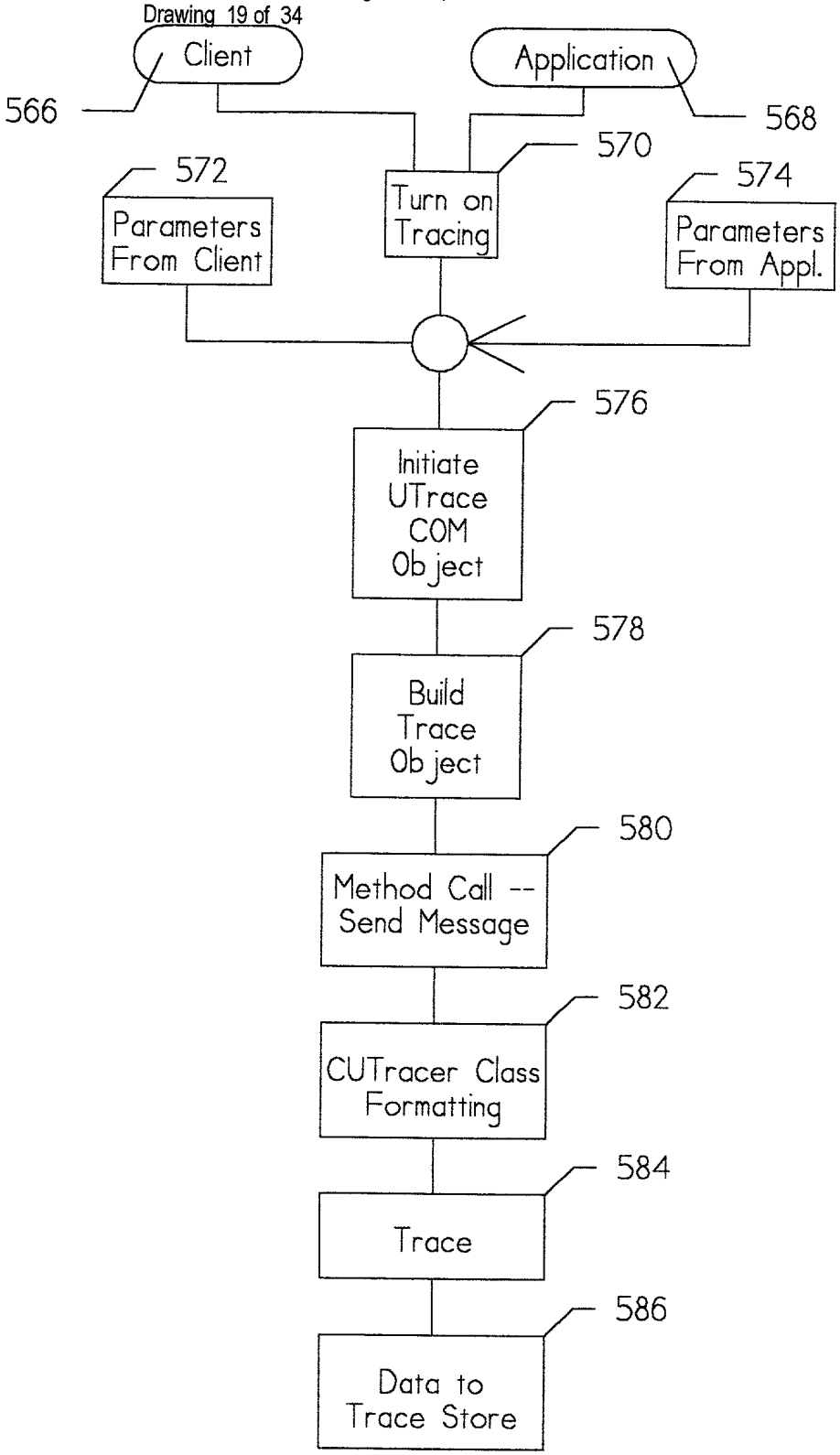

FIG. 19

10025378.4202001

```
#define CI_TRACE_VERSION        0xl
#define CI_TRACE_ERROR          0x2
#define CI_TRACE_INTERFACE      0x4
#define CI_TRACE_FLOW           0x8
#define CI_TRACE_DETAIL         0xl0
```

FIG. 20A

```
if (m_trace. Active(C)_TRACE_DETAIL))
m_trace<<"MY Detailed Trace information"<<Localvariable<<traceit
```

FIG. 20B

Patent - 6/4/2004

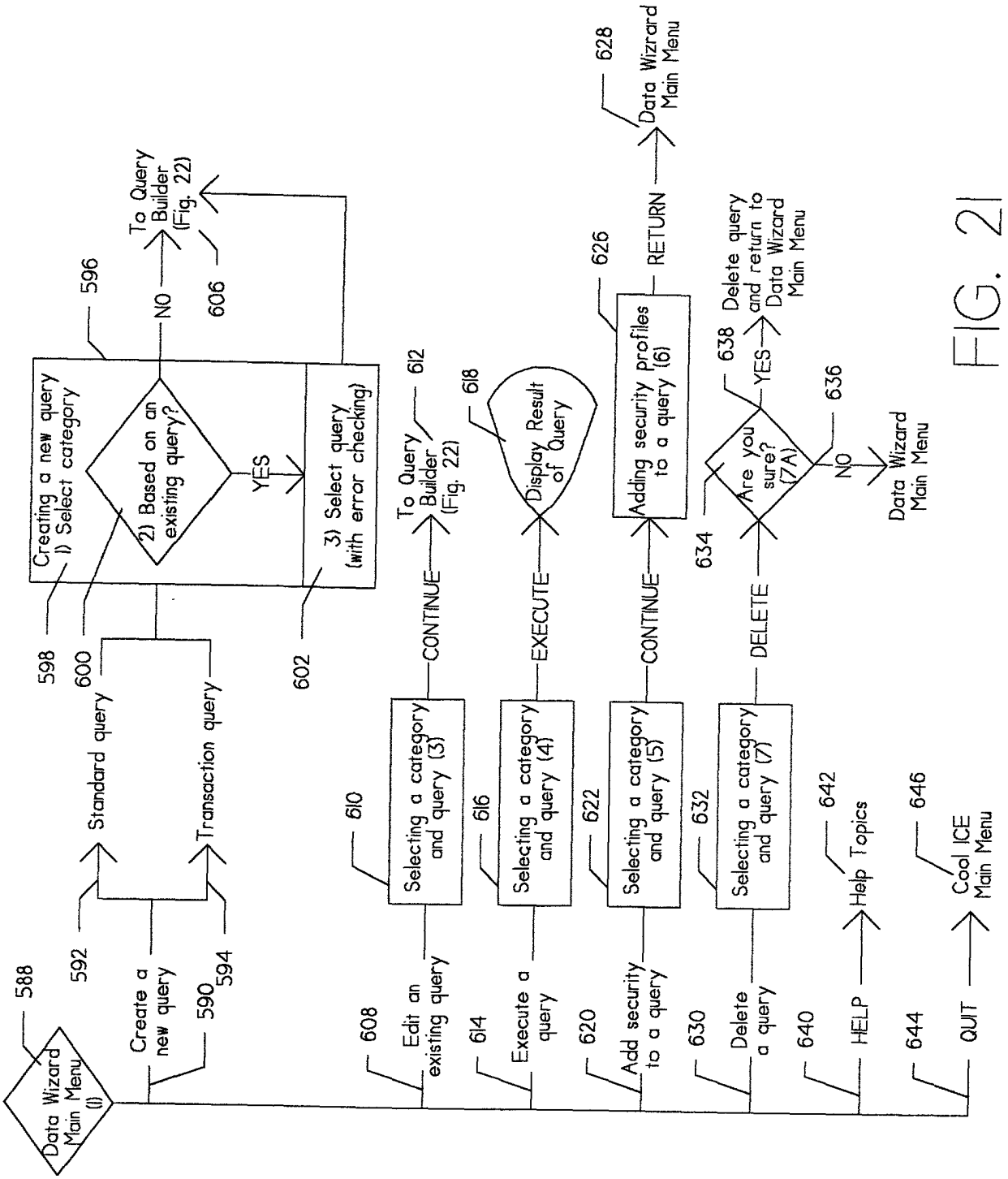

FIG. 21

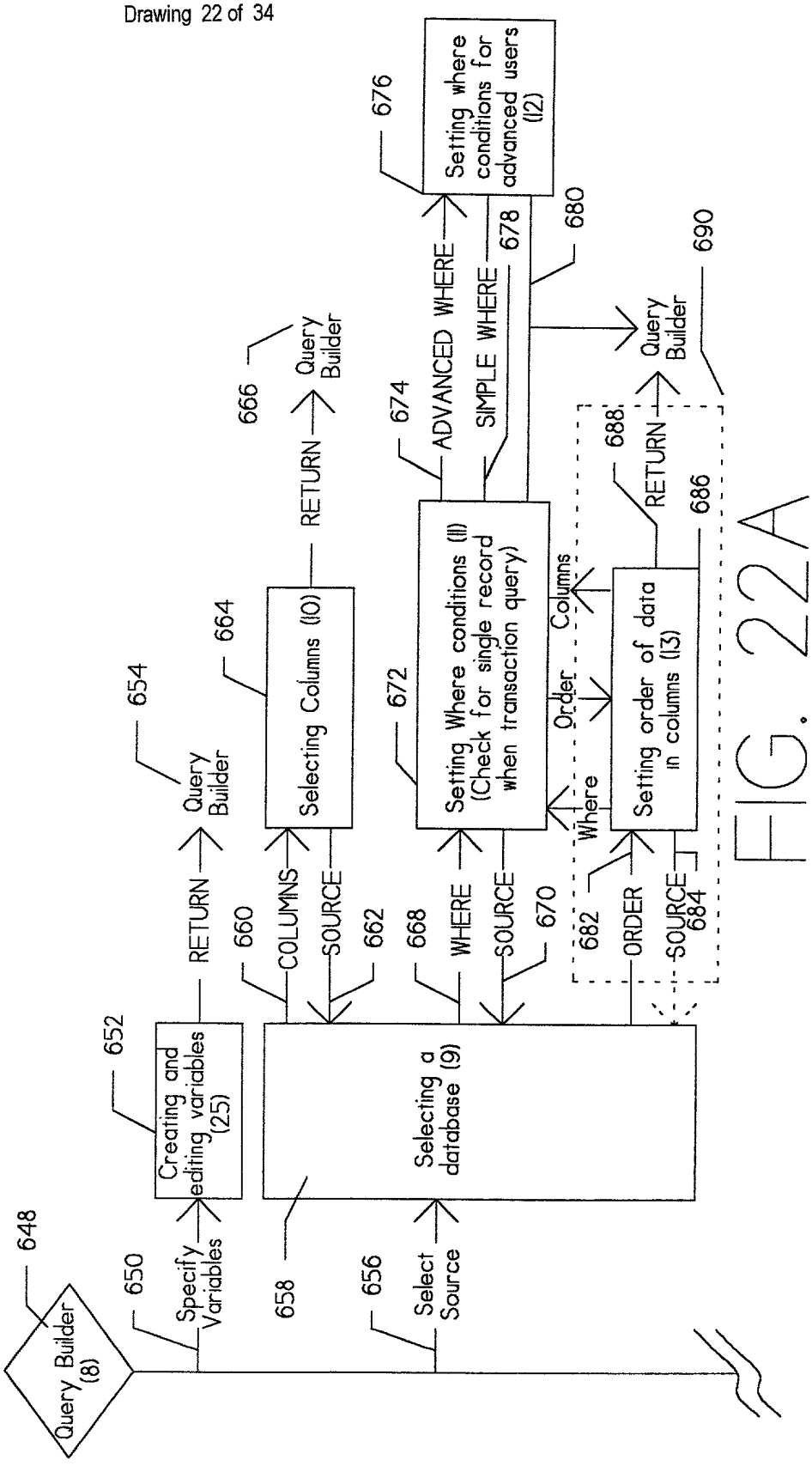

FIG. 22A

PTO/SB/21 (08-00)

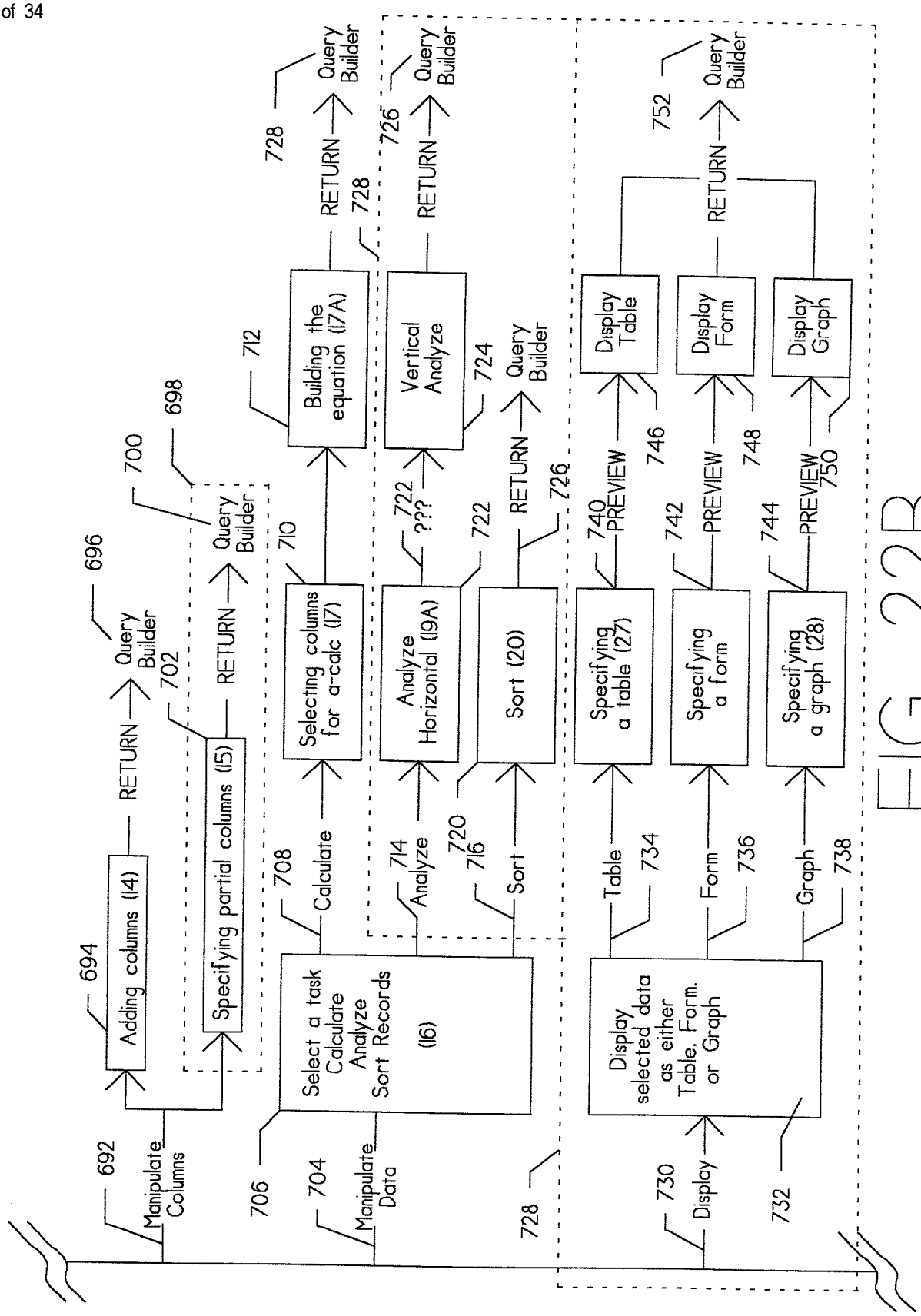
692
Manipulate Columns
694
Adding columns (14)
RETURN
696
Query Builder
698
700
Query Builder
Specifying partial columns (15)
RETURN
702
704
Manipulate Data
706
Select a task
Calculate
Analyze
Sort Records
(16)
708
Calculate
Selecting columns for a-calc (17)
710
Building the equation (17A)
712
RETURN
728
Query Builder
714
Analyze
Analyze Horizontal (19A)
722
???
Vertical Analyze
724
RETURN
726
Query Builder
720
716
Sort
Sort (20)
RETURN
726
Query Builder
728
730
Display
Table
734
Specifying a table (27)
740
PREVIEW
Display Table
746
Form
736
Specifying a form
742
PREVIEW
Display Form
748
Graph
738
Specifying a graph (28)
744
PREVIEW
750
Display Graph
752
Query Builder
RETURN
728
732
Display selected data as either Table, Form, or Graph

FIG. 22B

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 24 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

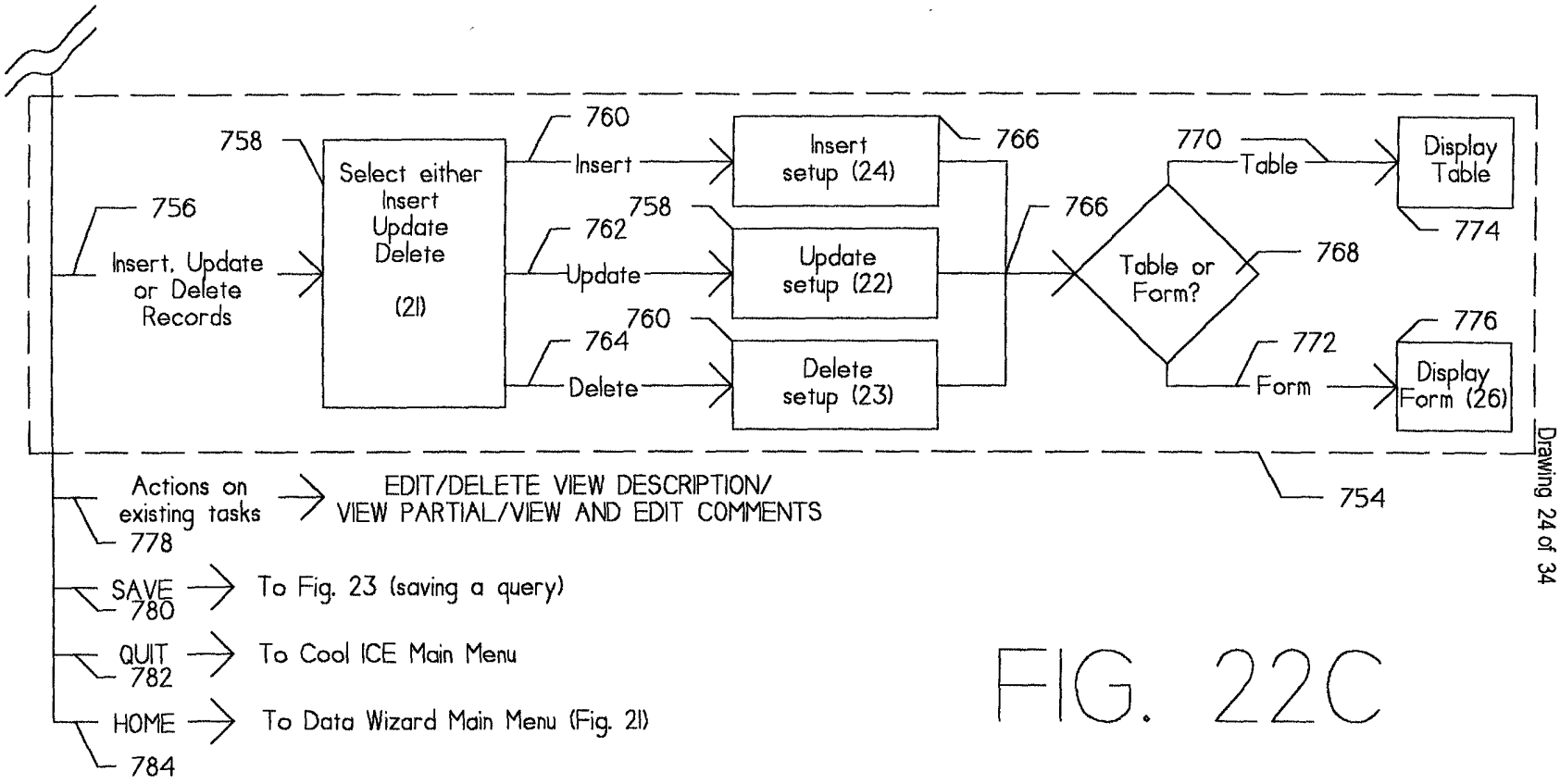

FIG. 22C

Express Mail No. ET351442249US
Customer Assignment No. 27516

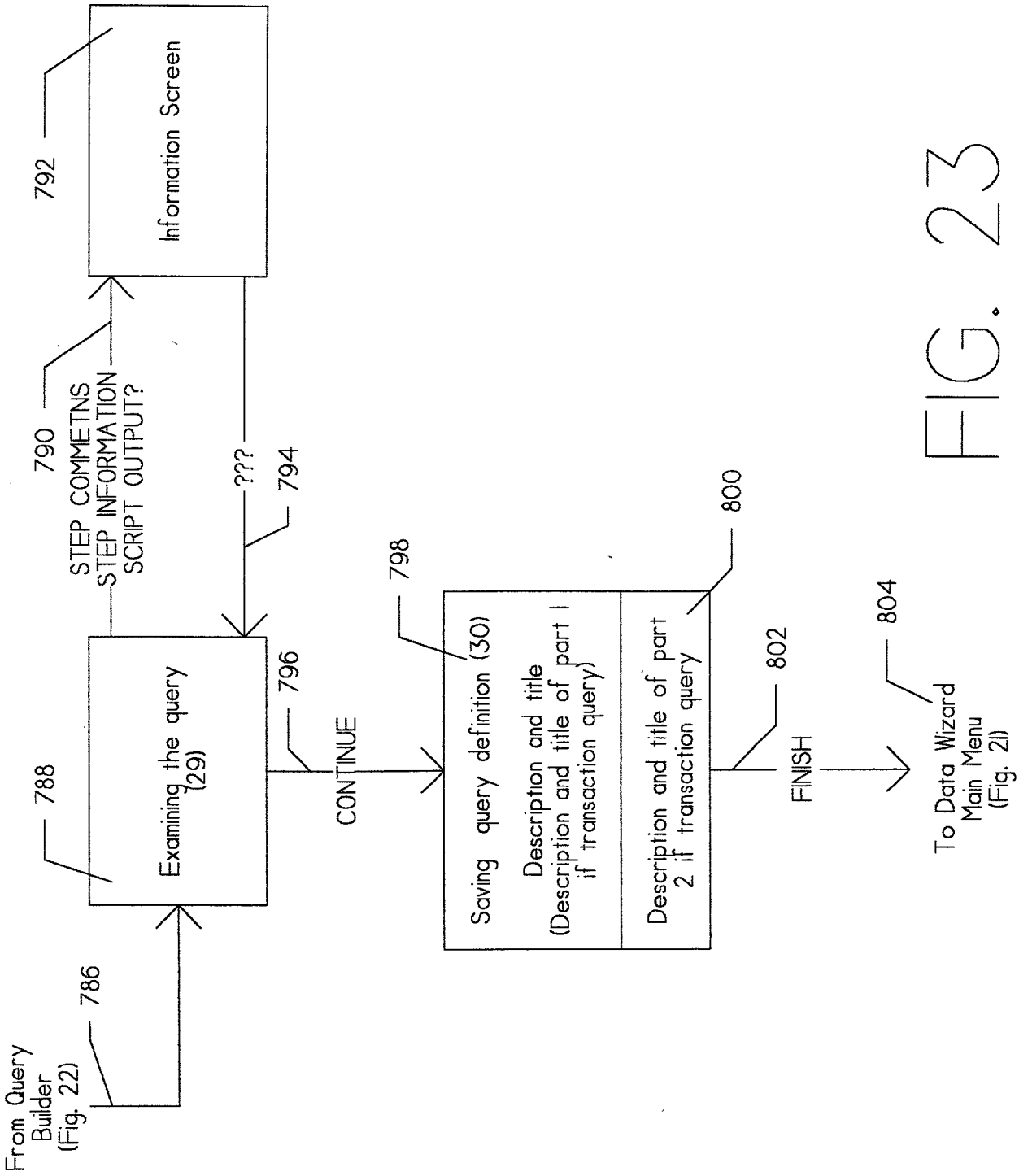

FIG. 23

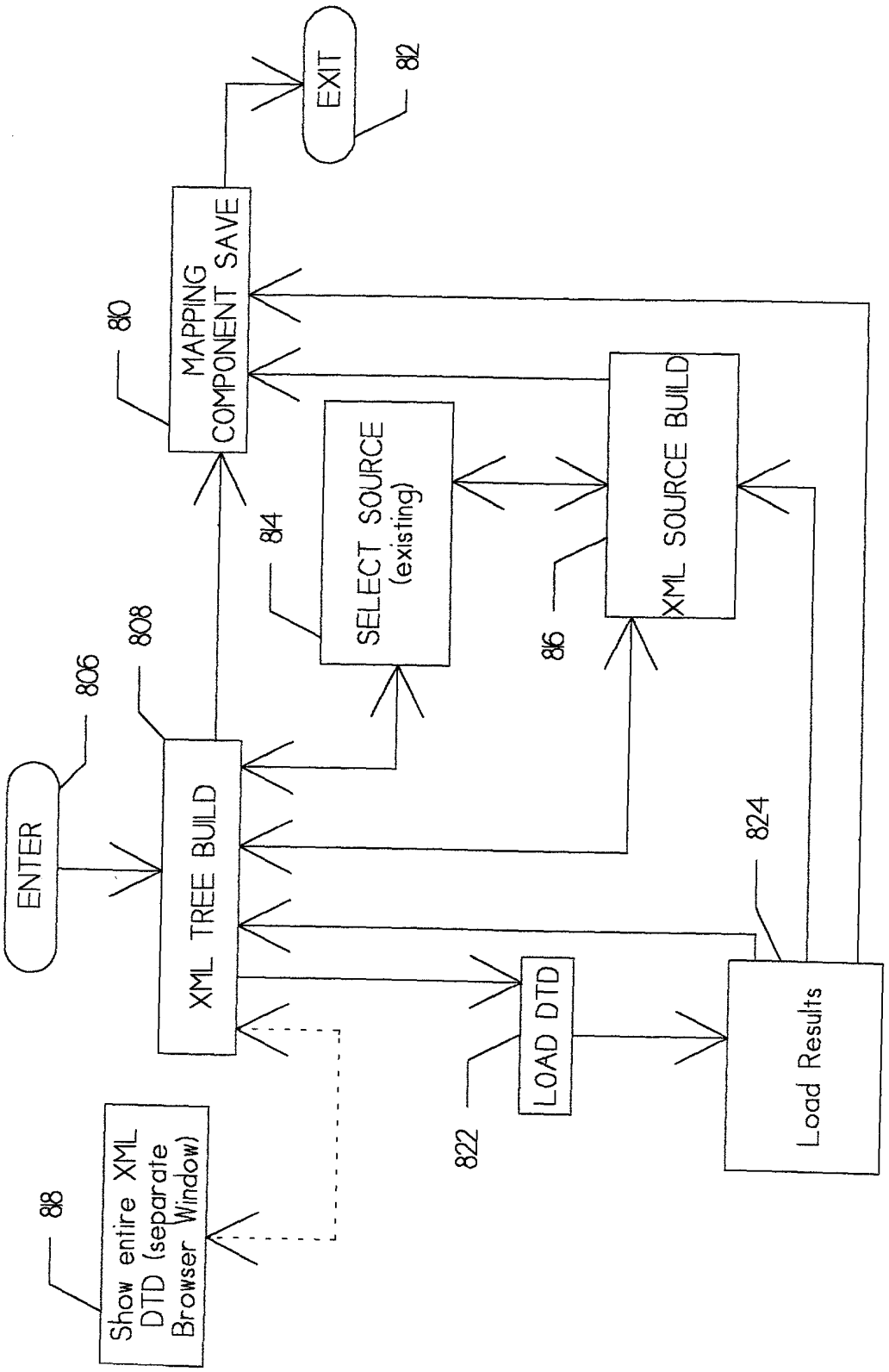
EXIT
82
MAPPING COMPONENT SAVE
80
SELECT SOURCE (existing)
84
XML SOURCE BUILD
86
ENTER
806
XML TREE BUILD
808
824
LOAD DTD
822
Load Results
Show entire XML DTD (separate Browser Window)
88

FIG. 24

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 27 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

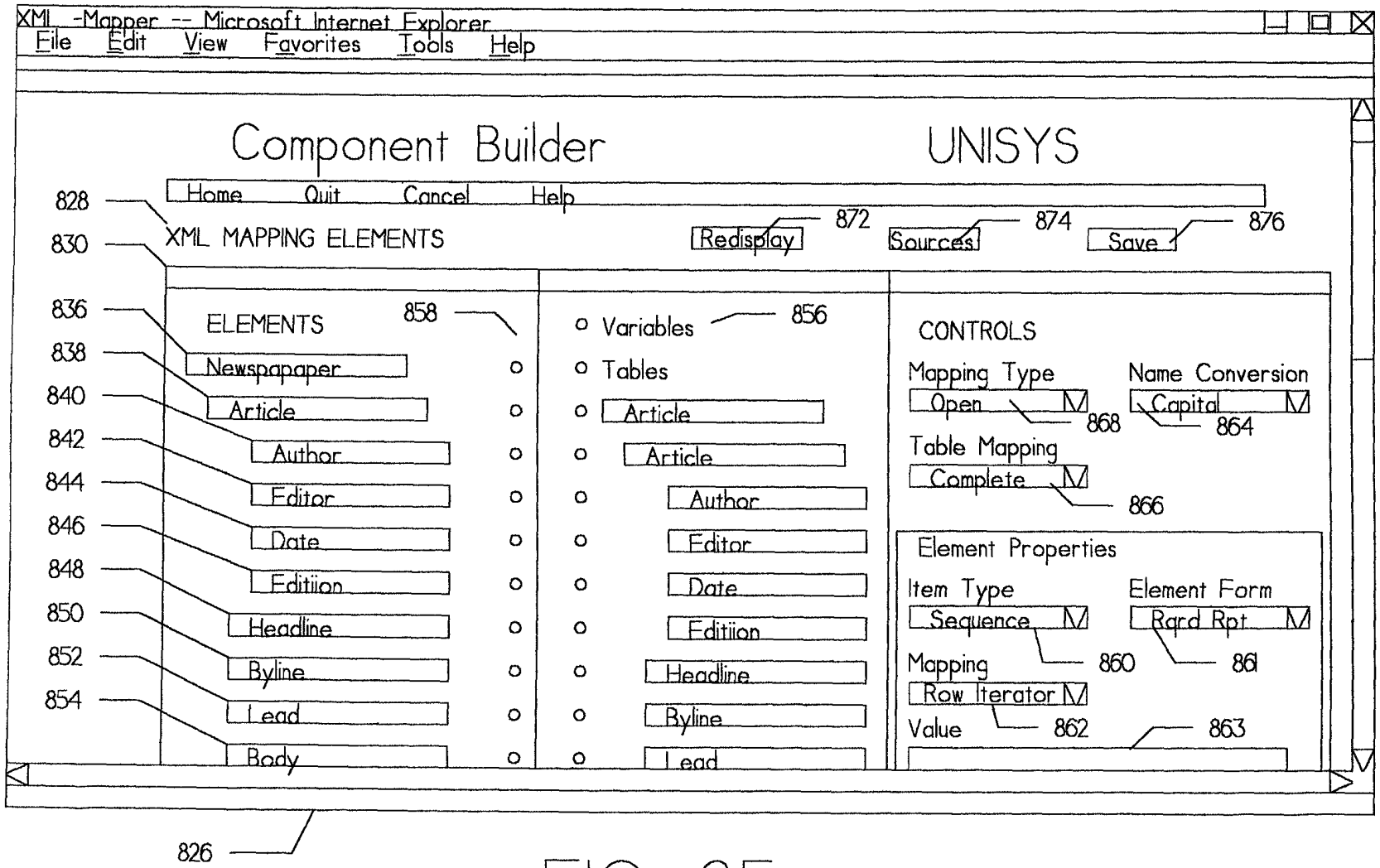

FIG. 25

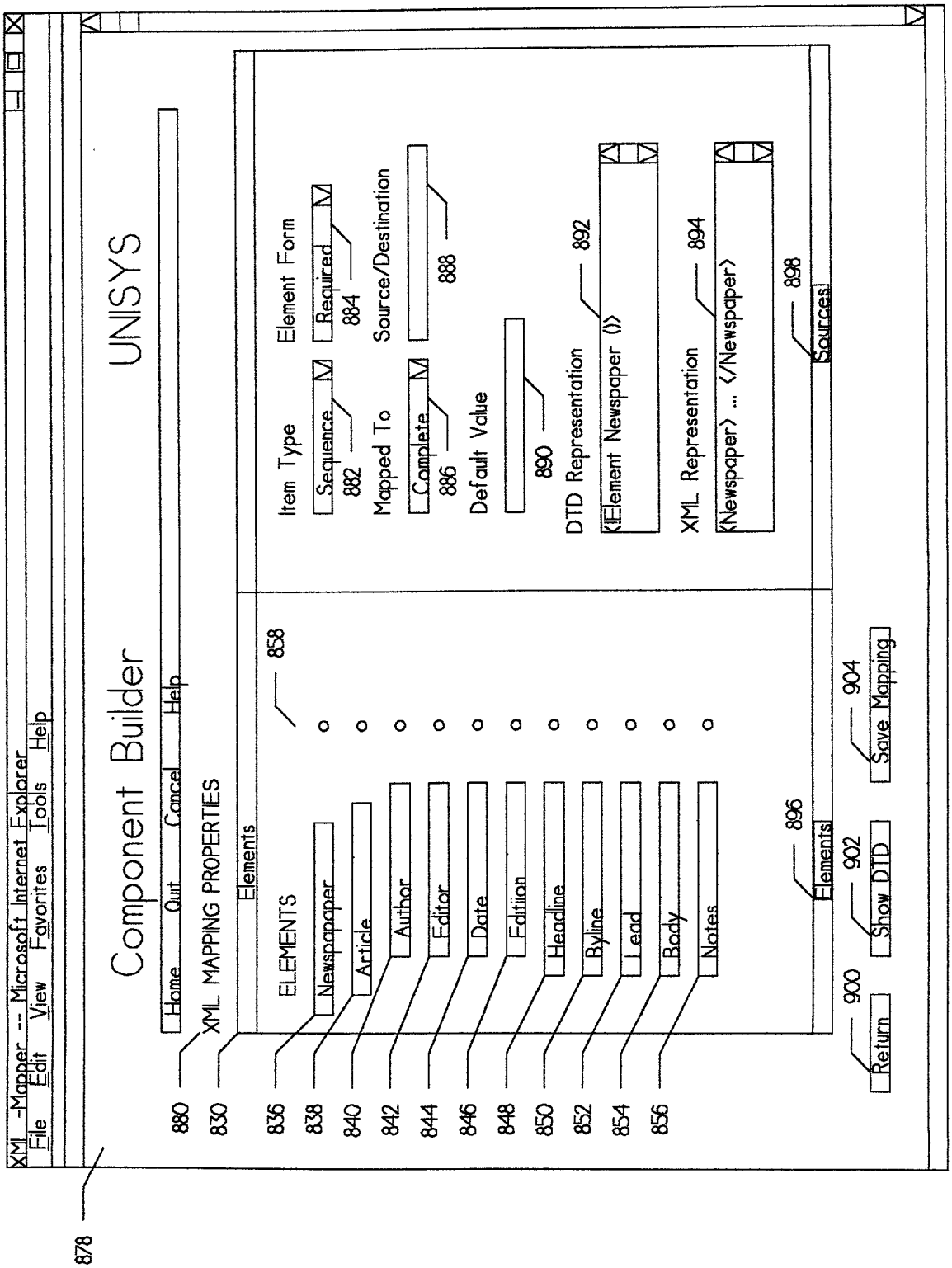
878
XML -Mapper -- Microsoft Internet Explorer
File Edit View Favorites Tools Help
Component Builder
UNISYS
Home Quit Cancel Help
880
XML MAPPING PROPERTIES
830
Elements
858
ELEMENTS
836
Newspaper
838
Article
840
Author
842
Editor
844
Date
846
Edition
848
Headline
850
Byline
852
Lead
854
Body
856
Notes
Item Type
Sequence
882
Element Form
Required
884
Mapped To
Complete
886
Source/Destination
888
Default Value
890
DTD Representation
892
<!Element Newspaper (|)>
XML Representation
894
<Newspaper> ... </Newspaper>
898
Sources
896
Elements
900
Return
902
Show DTD
904
Save Mapping

FIG. 26

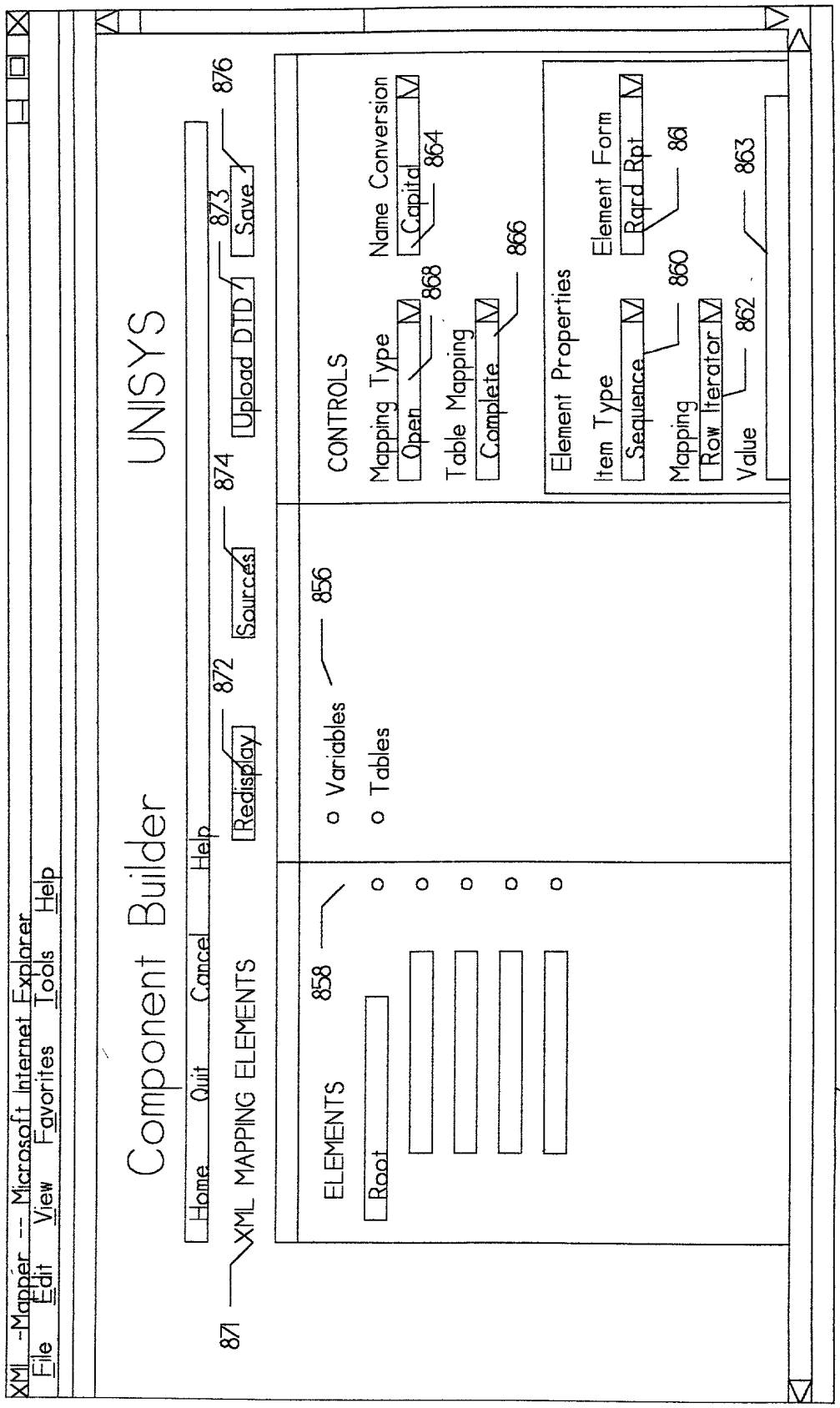
XML -Mapper -- Microsoft Internet Explorer
File Edit View Favorites Tools Help
Component Builder
UNISYS
Home Quit Cancel Help
XML MAPPING ELEMENTS
Redisplay
Sources
Upload DTD
Save
ELEMENTS
Root
Variables
Tables
CONTROLS
Mapping Type
Open
Table Mapping
Complete
Name Conversion
Capital
Element Properties
Item Type
Sequence
Mapping
Row Iterator
Value
Element Form
Rqrd Rpt
871
872
873
874
876
856
858
868
866
864
860
862
861
863
870

FIG. 27

Patented 6/7/2005

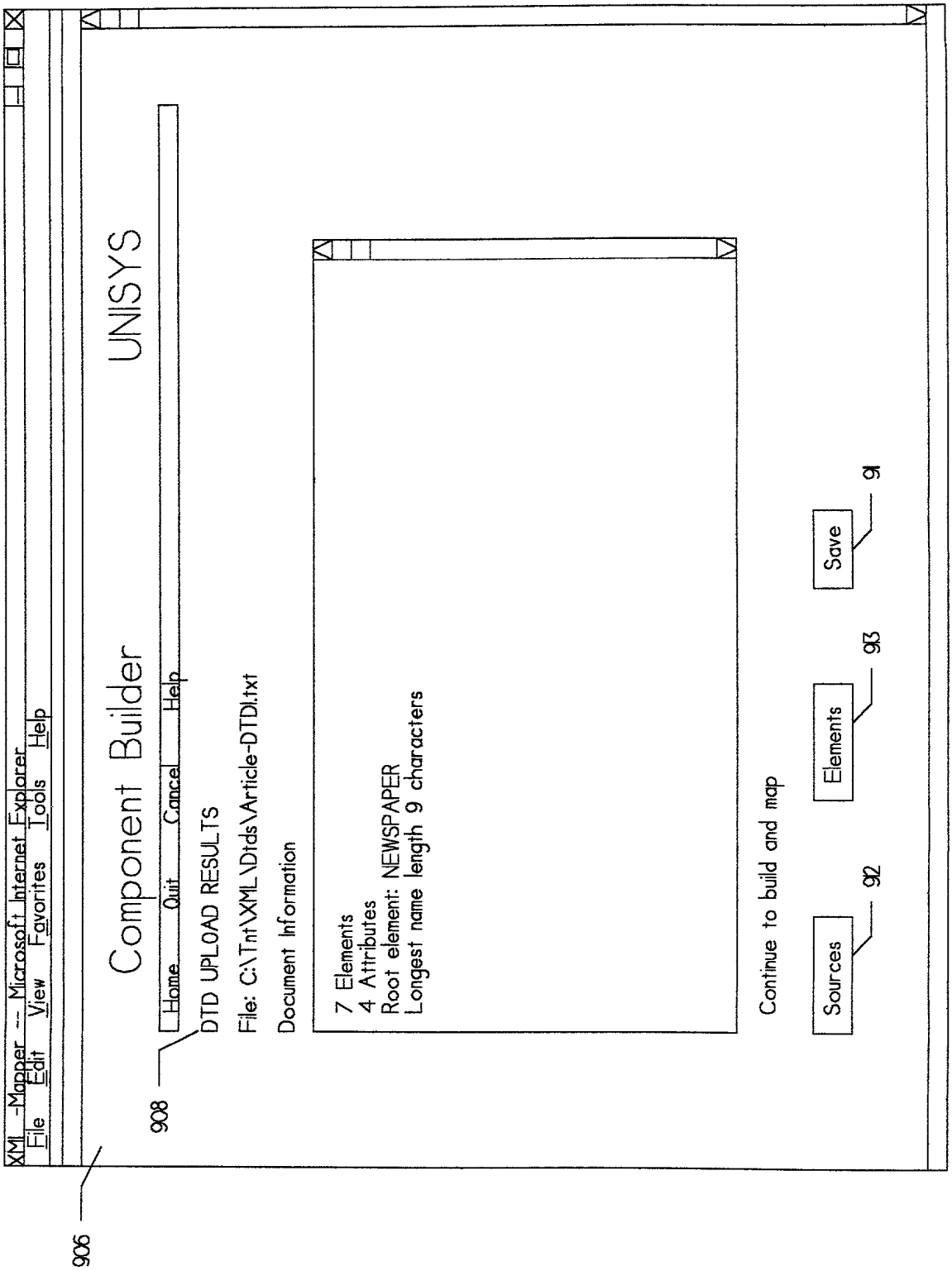

FIG. 28

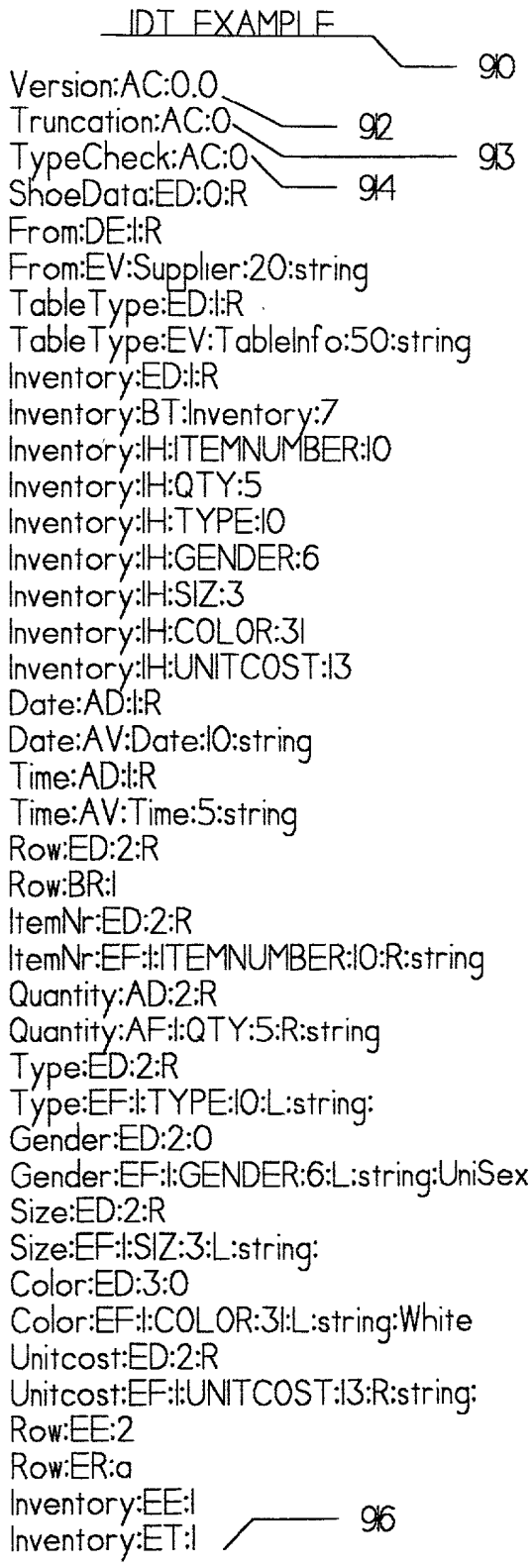

FIG. 29

EDS374978 - EXPRESS MAIL

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 32 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

DTD EXAMPLE 918

```
<!DOCTYPE ShoeData [

  <!ELEMENT ShoeData (From, TableType, Inventory)>
  <!ELEMENT From (#PCDATA)>
  <!ELEMENT TableType (#PCDATA)>
  <!ELEMENT Inventory (Row+)>
  <!ATTLIST Inventory Date CDATA #REQUIRED>
  <!ATTLIST Inventory Time CDATA #REQUIRED>
  <!ELEMENT Row (ItemNr, Type, Gener?, Size, Color?, Unitcost)+>
  <!ELEMENT ItemNr (#PCDATA)>
  <!ATTLIST ItemNr Quantity CDATA #REQUIRED>
  <!ELEMENT Type (#PCDATA)>
  <!ELEMENT Gender (#PCDATA)>
  <!ELEMENT Size (#PCDATA)>
  <!ELEMENT Color (#PCDATA)>
  <!ELEMENT Unitcost (#PCDATA)>
```

FIG. 30

XML INPUT DOCUMENT EXAMPLE — 920

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ShoeData>
<From>Roseville Store</From>
<TableType>Low Inventory Count</TableType>
<Inventory Date="2000-12-05" Time="11:51">
<Row>
<ItemNr Quantity="0">32335</ItemNr>
<Type>Tennis</Type>
<Gender>Mens</Gender>
<Size>6</Size>
<Color>White/Zen Grey/New Spruce</Color>
<Unitcost>25.00</Unitcost>
</Row>
<Row>
<ItemNr Quantity="0">35410</ItemNr>
<Type>Running</Type>
<Gender>Womens</Gender>
<Size>5</Size>
<Color>White/Zen Grey/Neptune Blue</Color>
<Unitcost>19.70</Unitcost>
</Row>
<Row>
<ItemNr Quantity="0">3541K</ItemNr>
<Type>Running</Type>
<Gender>Womens</Gender>
<Size>6</Size>
<Color>White/Zen Grey/Neptune Blue</Color>
<Unitcost>19.70</Unitcost>
</Row>
<Row>
<ItemNr Quantity="2">35420</ItemNr>
<Type>Running</Type>
<Gender>Womens</Gender>
<Size>5</Size>
<Color>White/Chlorine Blue/Hot Lime</Color>
<Unitcost>19.70</Unitcost>
</Row>
<Row>
<ItemNr Quantity="1">3742K</ItemNr>
<Type>Golf</Type>
<Gender>Womens</Gender>
<Size>8</Size>
<Color>White/Fluorescent Pink</Color>
<Unitcost>35.00</Unitcost>
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<Color>White/Light Marine-Ultramarine</Color>
<Unitcost>25.00</Unitcost>
</Row>
<Row>
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<Type>Running</Type>
<Gender>Mens</Gender>
<Size>6</Size>
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FIG. 31

EDGE7E78-E7E2E5

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5408 (33012/326/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 34 of 34
Express Mail No. ET351442249US
Customer Assignment No. 27516

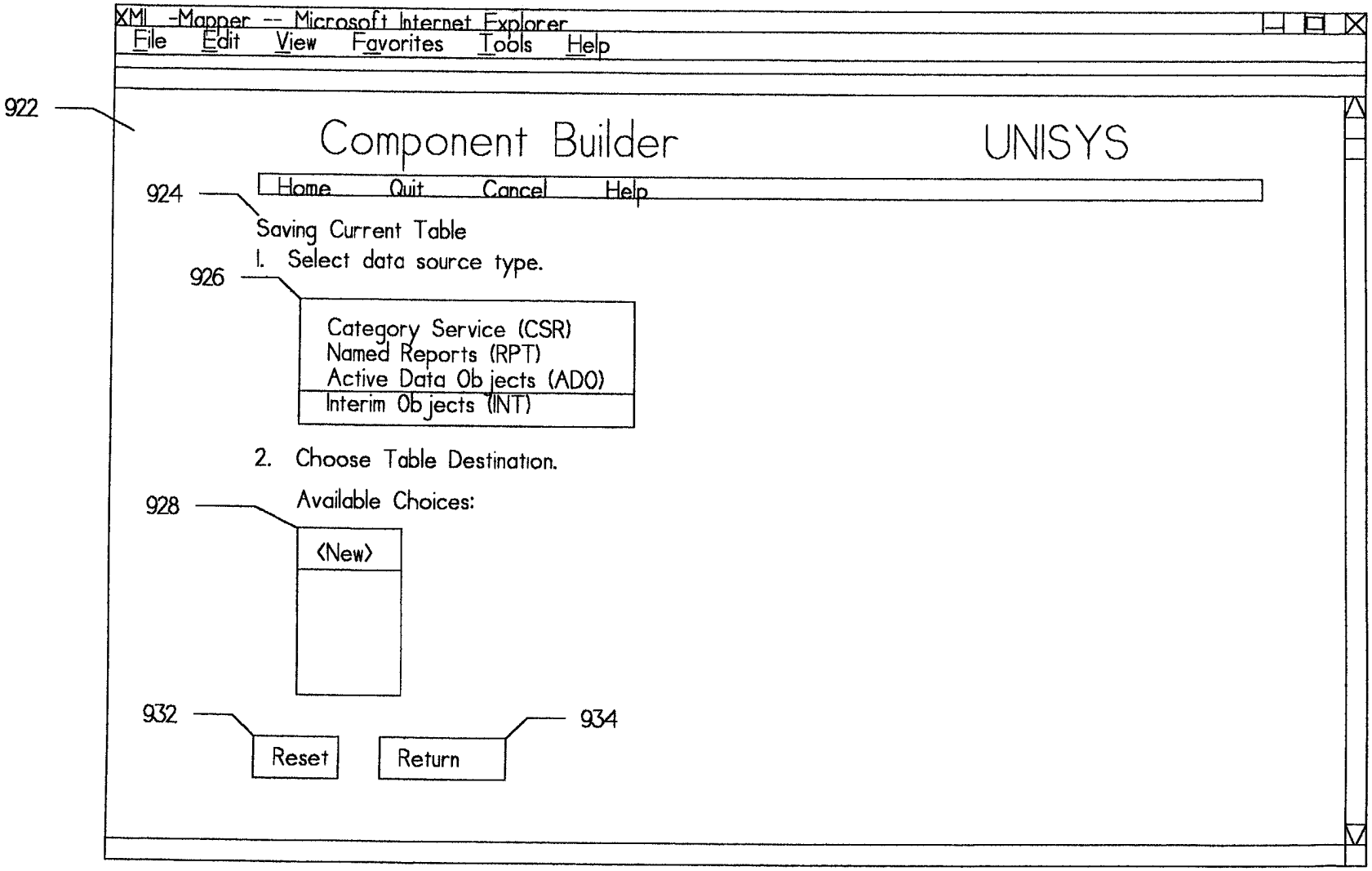

FIG. 32